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Prepared for

Environmental Monitoring and Support Lab, Las Vegas, Nev

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U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL EUTROPHICATION SURVEY

WORKING PAPER SERIES

ON

LAKE TAHOE
CARSON CITY, DOUGLAS AND
WASHOE COUNTIES, NEVADA
EL DORADO AND
PLACER COUNTIES, CALIFORNIA
EPA REGION IX
WORKING PAPER No. 810

CORVALLIS ENVIRONMENTAL RESEARCH LABORATORY - CORVALLIS, OREGON

and

ENVIRONMENTAL MONITORING & SUPPORT LABORATORY - LAS VEGAS, NEVADA

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REPORT ON LAKE TAHOE

CARSON CITY, DOUGLAS AND WASHOE COUNTIES, NEVADA

EL DORADO AND PLACER COUNTIES, CALIFORNIA

EPA REGION IX

by

National Eutrophication Survey

Water and Land Quality Branch
Monitoring Operations Division
Environmental Monitoring & Support Laboratory
Las Vegas, Nevada

and

Special Studies Branch
Corvallis Environmental Research Laboratory
Corvallis, Oregon

Working Paper No. 810

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16. ABSTRACT

Annual total phosphorus and total nitrogen loadings to the lake were estimated and subdivided according to either point or non-point source origin. An assessment of the lake's trophic condition and limiting nutrient is also provided. All data collected by the U.S.E.P.A. National Eutrophication Survey during the one year study of the lake and its tributaries are included in the report.

17. KEY WORDS AND DOCUMENT ANALYSIS

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CONTENTS

	Page
Foreword	ii
List of Nevada Study Lakes	iv
Lake and Drainage Area Map	v
Sections	
I. Conclusions	1
II. Lake and Drainage Basin Characteristics	6
III. Lake Water Quality Summary	8
IV. Nutrient Loadings	18
V. Literature Reviewed	23
VI. Appendices	25

FOREWORD

The National Eutrophication Survey was initiated in 1972 in response to an Administration commitment to investigate the nationwide threat of accelerated eutrophication to freshwater lakes and reservoirs.

OBJECTIVES

The Survey was designed to develop, in conjunction with state environmental agencies, information on nutrient sources, concentrations, and impact on selected freshwater lakes as a basis for formulating comprehensive and coordinated national, regional, and state management practices relating to point source discharge reduction and nonpoint source pollution abatement in lake watersheds.

ANALYTIC APPROACH

The mathematical and statistical procedures selected for the Survey's eutrophication analysis are based on related concepts that:

a. A generalized representation or model relating sources, concentrations, and impacts can be constructed.

b. By applying measurements of relevant parameters associated with lake degradation, the generalized model can be transformed into an operational representation of a lake, its drainage basin, and related nutrients.

c. With such a transformation, an assessment of the potential for eutrophication control can be made.

LAKE ANALYSIS

In this report, the first stage of evaluation of lake and watershed data collected from the study lake and its drainage basin is documented. The report is formatted to provide state environmental agencies with specific information for basin planning [§303(e)], water quality criteria/standards review [§303(c)], clean lakes [§314(a,b)], and water quality monitoring [§106 and §305(b)] activities mandated by the Federal Water Pollution Control Act Amendments of 1972.

Beyond the single lake analysis, broader based correlations between nutrient concentrations (and loading) and trophic condition are being made to advance the rationale and data base for refinement of nutrient water quality criteria for the Nation's freshwater lakes. Likewise, multivariate evaluations for the relationships between land use, nutrient export, and trophic condition, by lake class or use, are being developed to assist in the formulation of planning guidelines and policies by the U.S. Environmental Protection Agency and to augment plans implementation by the States.

ACKNOWLEDGMENTS

The staff of the National Eutrophication Survey (Office of Research and Development, U.S. Environmental Protection Agency) expresses sincere appreciation to the Nevada State Environmental Protection Service, the California State Water Resources Control Board and the California Regional Water Quality Control Board for professional involvement, to the Nevada and California National Guards for conducting the tributary sampling phase of the Survey, and to those Nevada and California wastewater treatment plant operators who provided effluent samples and flow data.

The staff of the Department of Conservation and Natural Resources, Division of Environmental Protection, Nevada Environmental Protection Service, and the staffs of the Division of Planning and Research of the California Water Resources Control Board and the Regional Water Quality Control Board, provided invaluable lake documentation and counsel during the Survey, reviewed the preliminary reports and provided critiques most useful in the preparation of this Working Paper Series.

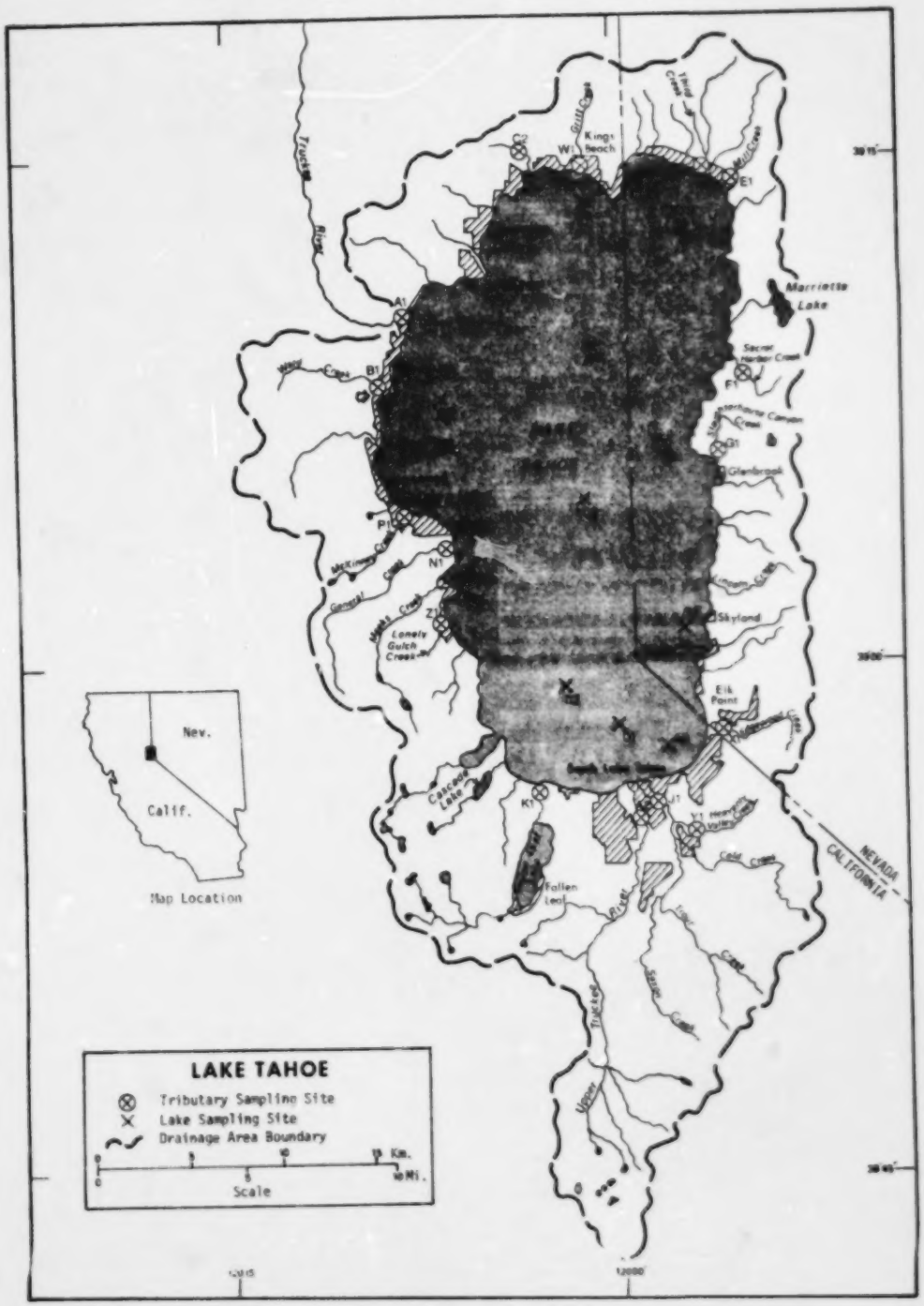
Major General Floyd L. Edsall, the Adjutant General of Nevada, and Project Officer Major Harold E. Roberts, who directed the volunteer efforts of the Nevada National Guardsmen, and Major General Glen C. Ames, the Adjutant General of California, and Project Officer Second Lieutenant Terry L. Barrie, who directed the volunteer efforts of the California National Guardsmen are also gratefully acknowledged for their assistance to the Survey.

NATIONAL EUTROPHICATION SURVEY

STUDY LAKES

STATE OF NEVADA

LAKE NAME	COUNTY
Lake Mead	Clark (Mohave in Arizona)
Lahontan Reservoir	Lyon, Churchill
Rye Patch Reservoir	Pershing
Lake Tahoe	Washoe, Carson City, Douglas (Placer, El Dorado in CA)
Topaz Reservoir	Douglas (Mono in CA)
Upper Pahranagat Lake	Lincoln
Washoe Lake	Washoe
Wildhorse Reservoir	Elko
Wilson Reservoir	Elko
Walker Lake	Mineral


Truckee River
Kings Beach
Marlette Lake
Glenbrook
Skyland
Elk Point
Cascade Lake
Fallen Leaf
Taylor Creek
Tallac
Meeks Bay
Emerald Bay
Lonely Gulch
NEVADA
CALIFORNIA
Nev.
Calif.
Map Location
LAKE TAHOE
Tributary Sampling Site
Lake Sampling Site
Drainage Area Boundary
Km.
Mi.
Scale

REPORT ON LAKE TAHOE, NEVADA

STORET NO. 3205

I. CONCLUSIONS

A. Trophic Condition:*

Survey data indicate that Lake Tahoe is oligotrophic. Chlorophyll a values in the lake ranged from 0.2 µg/l to 3.0 µg/l with a mean of 0.6 µg/l. Potential for primary productivity as measured by algal assay control yields was low and Secchi disc visibility was excellent. Of the 10 Nevada lakes sampled in 1975, all had higher median total phosphorus values (0.005 mg/l), all had greater median inorganic nitrogen levels (0.040 mg/l) and all had higher median orthophosphorus values (0.003 mg/l) than Lake Tahoe.

Survey limnologists noted submerged vegetation near the shoreline of developed areas. Goldman (1974) reports that periphyton growth has become abundant around the entire edge of the lake during the past decade. His study also demonstrates a 25.6% increase in planktonic primary productivity throughout the lake from 1968-1971.

*See Appendix E.

B. Rate-Limiting Nutrient:

The algal assay results indicate that Lake Tahoe was limited by available phosphorus. The lake data suggest primary limitation by nitrogen in the spring and summer and phosphorus limitation in the fall. Other studies (Lake Tahoe Area Council, 1971; Goldman, 1974) further indicate primary limitation by nitrogen in Lake Tahoe.

C. Nutrient Controllability:

1. Point sources -

There were no known point sources impacting Lake Tahoe during the sampling year. The Federal Water Pollution Control Act of 1972 prohibits point source discharge to the lake except by special permit. Since that time, all domestic wastewater is treated in the basin and then transported out (Dugan and McGauhey, 1974). Wendell McCurry (personal communication) reports that a few septic tanks still remain on the Nevada side of the lake. However, since the exact number of homes using septic tanks is not known, nutrient contributions from this source were not included in determination of the lake nutrient budget (pages 18-19).

The present phosphorus loading of 0.04 g $P/m^2/yr$ is less than that proposed by Vollenweider (1975) as "oligotrophic" for a lake of such volume and hydraulic retention time.

Lake Tahoe is renowned for the purity of its waters which are rivaled only by Crater Lake in Oregon and Lake Baikal in the Soviet Union. Consequently, much attention has been directed toward eutrophication processes acting on the lake. Since the threat of point source nutrient contributions has been removed, nonpoint sources are being carefully examined as to their effect on lake water quality.

2. Nonpoint sources -

Gaged tributaries contributed 25.2% of the total phosphorus load to Lake Tahoe during the sampling year and ungaged tributaries and immediate drainage contributed an estimated 32.3%. Direct precipitation was estimated to have contributed the remaining 42.5%.

Tahoe's oligotrophic nature results from a restricted watershed of granite rock (Goldman, 1968). Human influence in the basin, however, is disturbing the ecological stability of the region. The Lahontan Regional Water Quality Control Board and State Water Resources Control Board (1975) list lake and stream siltation as the major water quality problem in the lake. Activities such as housing construction, road building and logging remove natural vegetation and expose the soil to erosion. Enrichment from urban and nonurban runoff further contributes to the process of eutrophication in Lake Tahoe. As the population of the area grows, problems of siltation and urban runoff can be

expected to increase.

Several studies have provided evidence for the influence of tributaries on the deterioration of water quality in the lake. Goldman (1974) reports primary productivity is generally high near shore and at creek mouths and low in the middle of the lake. Chemical analysis of 31 tributaries to the lake showed the average total nitrogen was approximately twice that of the lake and average total phosphorus 3 times as great (Lake Tahoe Area Council, 1971). As would be expected, tributaries draining highly developed areas contain more nutrients and have a greater stimulatory effect on algal growth than tributaries draining undeveloped land (Lake Tahoe Area Council, 1974; Goldman, 1974).

The Lake Tahoe Area Council also considers precipitation to be an important contributor of nutrients to the lake. They found the concentration of nitrogen in melted snow is 2.5 times that of the lake and total phosphorus is double lake water. Their report estimates the amount of nitrogen in direct precipitation plus runoff is equivalent to the secondary sewage effluent discharged from a town of 66,000 people.

The outlet of Lake Tahoe is controlled by gates at Tahoe City. The Truckee River is used for power, municipal and agricultural purposes and is also important for the maintenance

of fish and wildlife habitats (Lahontan Regional Water Quality Control Board and State Water Resources Control Board, 1975). Decisions on water management in the Tahoe Basin will have a major impact on downstream uses.

The exceptional water quality of Lake Tahoe makes it a valuable natural resource. Man's activities have accelerated the rate of eutrophication in the lake and population growth and land development pose an increasing threat to the environment. The need for stringent land use regulations is demonstrated by the sensitivity of the lake to changes in its watershed. Future development in the basin should be carefully evaluated to maintain the existing high water quality of the lake.

II. LAKE AND DRAINAGE BASIN CHARACTERISTICS

Lake and drainage basin characteristics are itemized below. Lake morphometry data were provided by James B. Williams, Jr. (personal communication). Tributary flow data were provided by the Nevada District Office of the U.S. Geological Survey. Outlet drainage area includes the lake surface area. Mean hydraulic retention time was obtained by dividing the lake volume by mean flow of the outlet. Precipitation values are estimated by methods as outlined in National Eutrophication Survey (NES) Working Paper No. 175. A table of metric/English conversions is included as Appendix A.

A. Lake Morphometry:

1. Surface area: 501.82 km^2.
2. Mean depth: 307.8 meters.
3. Maximum depth: 501.7 meters.
4. Volume: 154,186.250 x 10^6 m^3.
5. Mean hydraulic retention time: 174,104 days (477 yrs).

B. Tributary and Outlet:
(See Appendix B for flow data)

1. Tributaries -

Name	Drainage area (km^2)	Mean Flow (m^3/sec)
A-2 Upper Truckee River	141.9	3.35
B-1 Ward Creek	25.1	0.88
D-1 Third Creek	15.5	0.23
J-1 Trout Creek	104.6	1.34
K-1 Taylor Creek	46.9	1.51
N-1 General Creek	19.9	0.75
P-1 McKinney Creek	13.2	0.50
Minor tributaries and immediate drainage -	445.5	9.29
Total	812.6	17.85
2. Outlet - A-1 Truckee River	1,307.9	10.25

C. Precipitation:

1. Year of sampling: 72.8 cm.
2. Mean annual: 84.2 cm.

III. LAKE WATER QUALITY SUMMARY

Lake Tahoe was sampled three times during the open-water season of 1975 by means of a pontoon-equipped Huey helicopter. Each time, samples for physical and chemical parameters were collected from ten stations (Stations 02 and 08 were samples only twice) on the lake and from a number of depths at each station (see map, page v). During each visit, temperature profiles were obtained from continuous analog recorders and depth-integrated samples were collected from each station for chlorophyll a analysis and phytoplankton identification and enumeration. During the first and last visits, 18.9-liter depth-integrated samples were composited for algal assays. Maximum depths (expressed in meters) sampled are listed below:

Station Number	Maximum Depth
01	73.2
02	53.3
03	73.2
04	18.9
05	73.2
06	71.9
07	73.2
08	73.2
09	65.8
10	73.2

Sample collection was limited to the upper 240 feet (73.2 meters) of the water column because of cable length. Consequently, data from deeper waters were not collected. Secchi disc readings were also limited to 600 inches (15.2 meters), due to line length; past

data indicate Secchi disc readings in Lake Tahoe are typically 25-35 meters (T. Bailey, personal communication). For a more detailed explanation of NES methods, see NES Working Paper No.175.

The results obtained are presented in full in Appendix C and are summarized in III-B for waters at the surface and at the maximum depth for each site. Results of the phytoplankton counts and chlorophyll a determinations are included in III-C. Results of the limiting nutrient study are presented in III-D.

A. Temperature:

Temperature profiles during the March sampling (Figure 1) show a nearly isothermal water column and indicate winter mixing to the depth of sample collection. A well-developed thermocline is evident in the July profiles (Figure 2). In November (Figure 3), the thermocline is deeper and mixing is apparent to approximately 30 m.

Goldman (1974) reports deep mixing in the lake and an almost homothermous water column from the end of December to April or May. Paerl et al. (1975) provide evidence that the lake was holomictic in 1973. However, they note that the lake may not turn over completely every year. Since the depth of vertical mixing effects the amount of nutrients available for phytoplankton growth, they suggest differences in the amount of overturn may be responsible for the yearly variations in productivity.

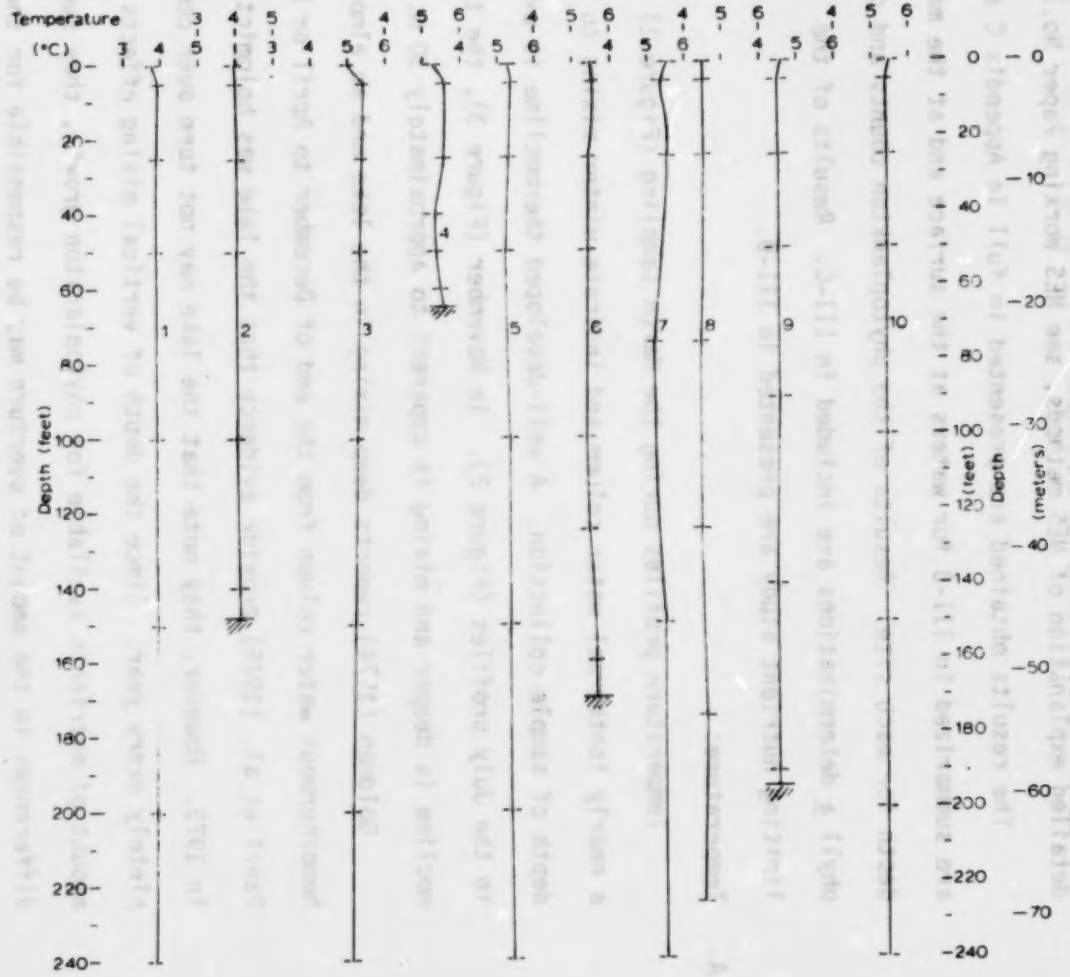


Figure 1. Temperature vs. Depth - Lake Tahoe, March 1975. Numerals indicate station number; --- indicates location of physical water samples; cross hatch indicates depth of bottom.

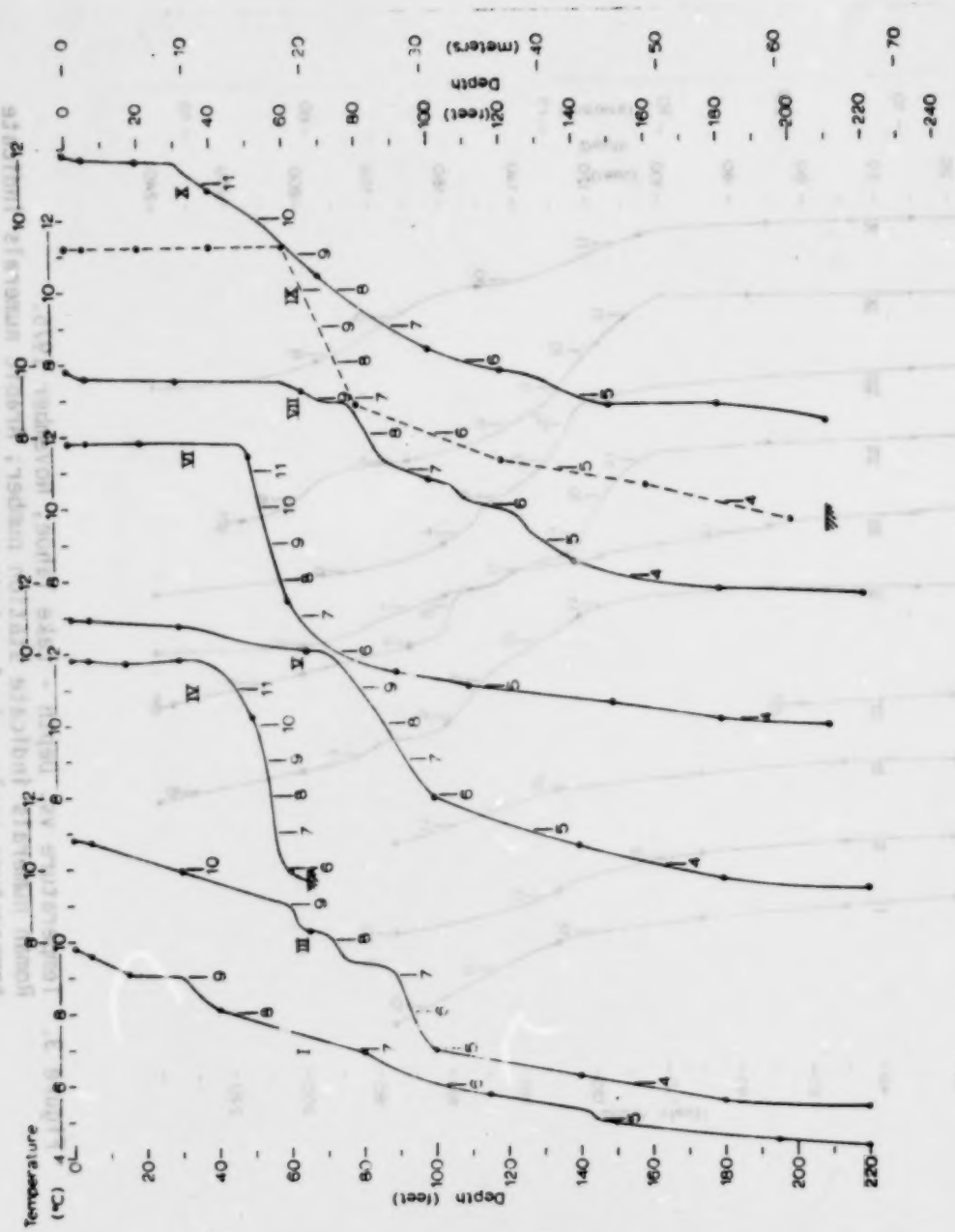


Figure 2. Temperature vs. Depth - Lake Tahoe, July 1975. Roman numerals indicate station number; Arabic numerals indicate temperature scale; circles indicate depth of physical water samples; cross hatch indicates depth of bottom.

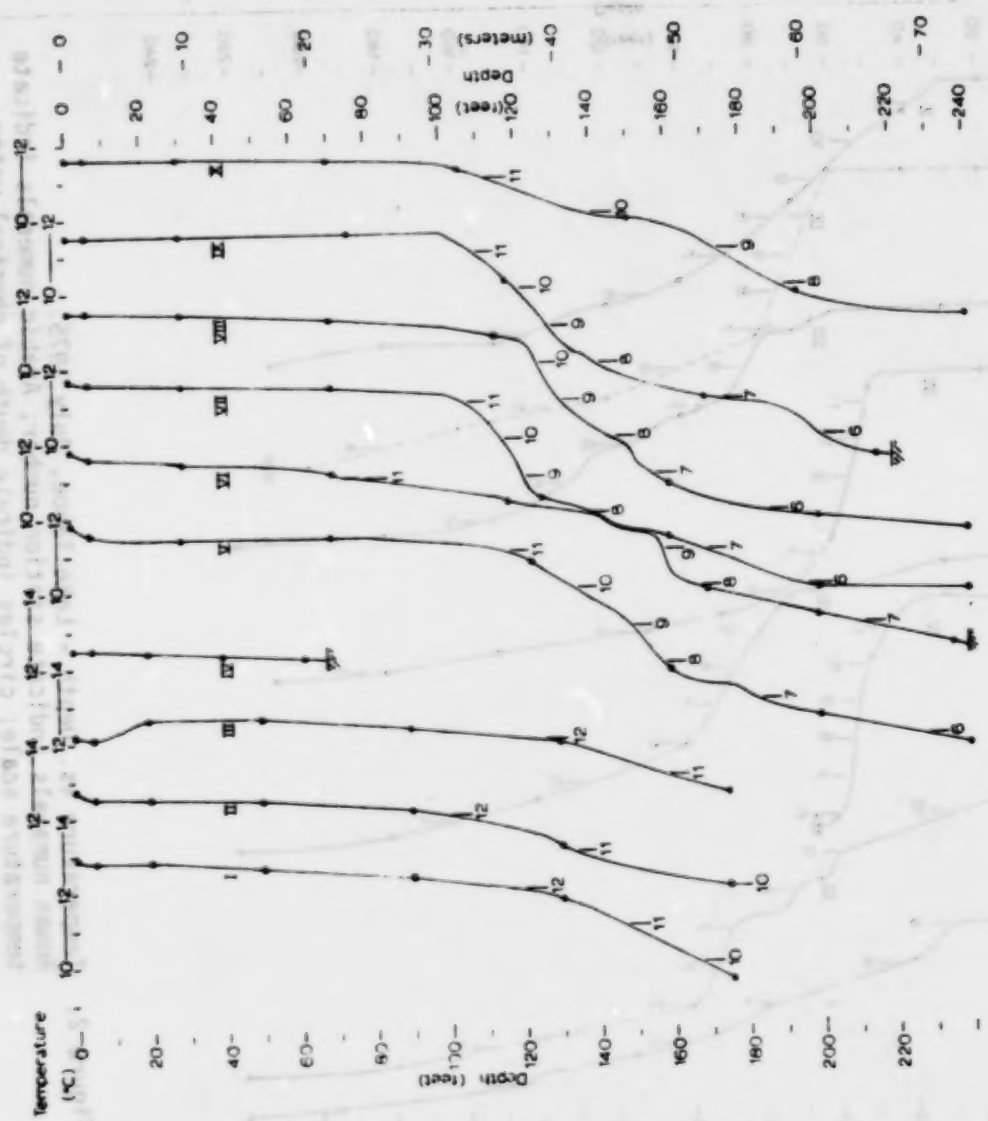


Figure 3. Temperature vs. Depth - Lake Tahoe, November 1975. Roman numerals indicate station number; Arabic numerals indicate temperature scale; circles indicate depth of physical water samples; cross hatch indicates depth of bottom.

CODE 3205

PHYSICAL AND CHEMICAL CHARACTERISTICS

PARAMETER	N*	(3/13/75) SSSS = 5 RANGE	MEDIAN	MAX DEPTH RANGE (METERS)	N*	(6/27/75) SSSS = 4 RANGE	MEDIAN	MAX DEPTH RANGE (METERS)	N*	(11/ 4/75) SSSS = 5 RANGE	MEDIAN	MAX DEPTH RANGE (METERS)
TEMPERATURE (DEG C) 0.-1.5 M DEPTH	10	3.7- 5.6	5.3	0.0- 1.5	8	9.6- 11.8	11.8	0.0- 1.5	10	11.6- 12.9	12.5	0.0- 1.5
MAX DEPTH**	5	3.7- 5.4	5.3	18.3- 73.1	4	3.4- 5.9	4.2	18.3- 67.1	5	6.4- 12.2	9.5	18.9- 73.1
DISSOLVED OXYGEN (MG/L) 0.-1.5 M DEPTH	10	9.4- 10.2	9.8	0.0- 1.5	8	9.4- 9.0	8.3	0.0- 1.5	10	8.4- 9.0	8.7	0.0- 1.5
MAX DEPTH**	5	9.4- 10.0	9.9	18.3- 73.1	4	9.8- 10.0	9.8	18.3- 67.1	5	9.0- 10.2	10.0	18.9- 73.1
CONDUCTIVITY (UMHOS) 0.-1.5 M DEPTH	10	89.- 96.	93.	0.0- 1.5	8	65.- 81.	74.	0.0- 1.5	10	53.- 89.	53.	0.0- 1.5
MAX DEPTH**	5	90.- 95.	93.	18.3- 73.1	4	60.- 69.	61.	18.3- 67.1	5	47.- 94.	55.	18.9- 73.1
PH (STANDARD UNITS) 0.-1.5 M DEPTH	10	6.3- 8.0	7.8	0.0- 1.5	8	8.0- 8.4	8.1	0.0- 1.5	10	7.6- 8.1	8.0	0.0- 1.5
MAX DEPTH**	5	6.1- 7.5	7.7	18.3- 73.1	4	8.0- 8.1	8.1	18.3- 67.1	5	7.9- 8.1	8.0	18.9- 73.1
TOTAL ALKALINITY (MG/L) 0.-1.5 M DEPTH	10	44.- 56.	52.	0.0- 1.5	8	48.- 56.	51.	0.0- 1.5	10	39.- 49.	44.	0.0- 1.5
MAX DEPTH**	5	44.- 55.	49.	18.3- 73.1	3	50.- 53.	52.	19.3- 64.0	5	34.- 50.	48.	18.9- 73.1
TOTAL P (MG/L) 0.-1.5 M DEPTH	10	0.002-0.015	0.005	0.0- 1.5	8	0.005-0.015	0.009	0.0- 1.5	10	0.002-0.004	0.003	0.0- 1.5
MAX DEPTH**	5	0.002-0.017	0.005	18.3- 73.1	4	0.005-0.010	0.006	18.3- 67.1	5	0.002-0.005	0.004	18.9- 73.1
DISSOLVED ORTHO P (MG/L) 0.-1.5 M DEPTH	10	0.002-0.012	0.005	0.0- 1.5	8	0.004-0.010	0.009	0.0- 1.5	10	0.002-0.002	0.002	0.0- 1.5
MAX DEPTH**	5	0.002-0.012	0.003	18.3- 73.1	4	0.003-0.009	0.004	18.3- 67.1	5	0.002-0.002	0.002	18.9- 73.1
NO2+NO3 (MG/L) 0.-1.5 M DEPTH	10	0.020-0.020	0.020	0.0- 1.5	8	0.005-0.030	0.020	0.0- 1.5	10	0.020-0.020	0.020	0.0- 1.5
MAX DEPTH**	5	0.020-0.020	0.020	18.3- 73.1	4	0.005-0.020	0.020	18.3- 67.1	5	0.020-0.020	0.020	18.9- 73.1
AMMONIA (MG/L) 0.-1.5 M DEPTH	10	0.020-0.020	0.020	0.0- 1.5	8	0.012-0.290	0.030	0.0- 1.5	10	0.020-0.020	0.020	0.0- 1.5
MAX DEPTH**	5	0.020-0.020	0.020	18.3- 73.1	4	0.010-0.030	0.020	18.3- 67.1	5	0.020-0.020	0.020	18.9- 73.1
KJELDAHL N (MG/L) 0.-1.5 M DEPTH	10	0.200-0.300	0.200	0.0- 1.5	8	0.050-0.200	0.200	0.0- 1.5	10	0.200-0.200	0.200	0.0- 1.5
MAX DEPTH**	5	0.200-0.200	0.200	18.3- 73.1	4	0.050-0.200	0.200	18.3- 67.1	5	0.200-0.200	0.200	18.9- 73.1
SECCHI DISC (METERS)	4	15.2- 15.2	15.2		4	6.1- 15.2	6.1		5	15.2- 15.2	15.2	

* N = NO. OF SAMPLES
** MAXIMUM DEPTH SAMPLED AT EACH SITE
*** S = NO. OF SITES SAMPLED IN THIS DATE

B. Biological Characteristics:

1. Phytoplankton -

Sampling Date	Dominant Genera	Algal Units Per ml
03/18/75	1. Nitzschia	35
	2. Stephanodiscus	35
	Other genera	---
	Total	70
07/02/75	1. Nitzschia	302
	Other genera	---
	Total	302
11/04/75	1. Centric diatom	6
	2. Cymbella	6
	3. Gymnodinium	3
	Other genera	---
	Total	15

2. Chlorophyll a -

Sampling Date	Station Number	Chlorophyll a (µg/l)
03/18,24/75	01	0.9
	02	0.9
	03	0.5
	04	0.5
	05	0.4
	06	0.5
	07	0.5
	08	0.5
	09	0.5
	10	0.7
06/27/75, 07/02/75*	01	0.8
	02	---
	03	0.4
	04	0.6
	05	0.4
	06	0.5
	07	0.5
	08	---
	09	0.3
	10	0.3
11/04/75	01	3.0
	02	0.5
	03	0.4
	04	0.3
	05	0.3
	06	0.3
	07	0.4
	08	0.2
	09	0.4
	10	0.5

*It should be noted that the California Department of Water Resources indicates maximum chlorophyll a levels in Lake Tahoe are found as deep as 100-110 meters in late summer so would not be detected by NES due to sampling depth limitations (T. Bailey, Personal Communication).

D. Limiting Nutrient Study:

1. Autoclaved, filtered, and nutrient spiked -

Spike (mg/l)	Ortho P Conc. (mg/l)	Inorganic N Conc. (mg/l)	Maximum Yield (mg/l-dry wt.)
a. 03/18,24/75 Stations 01-04			
Control	0.010	0.025	0.1
0.05 P	0.060	0.025	1.2
0.05 P + 1.0 N	0.060	1.025	8.8
1.00 N	0.010	1.025	0.1
Stations 05-07, 10			
Control	0.010	0.030	0.2
0.05 P	0.060	0.030	2.0
0.05 P + 1.0 N	0.060	1.030	22.1
1.00 N	0.010	1.030	0.2
Stations 08,09			
Control	<0.005	<0.010	0.2
0.05 P	<0.055	<0.010	1.7
0.05 P + 1.0 N	<0.055	<1.010	23.0
1.00 N	<0.005	<1.010	0.2
b. 11/04/75 Stations 01-04			
Control	0.005	0.035	0.2
0.05 P	0.055	0.035	2.6
0.05 P + 1.0 N	0.055	1.035	27.4
1.00 N	0.005	1.035	0.2
Stations 05-06			
Control	0.005	0.030	0.2
0.05 P	0.055	0.030	2.2
0.05 P + 1.0 N	0.055	1.030	25.5
1.00 N	0.005	1.030	0.2
Stations 07-10			
Control	0.005	0.030	0.2
0.05 P	0.055	0.030	2.3
0.05 P + 1.0 N	0.055	1.030	25.4
1.00 N	0.005	1.030	0.2

2. Discussion -

The control yields of the assay alga, Selenastrum capricornutum*, indicate that the potential for primary productivity in Lake Tahoe was low during both sample collection times (03/18,24/75, 11/04/75). In all assays, the increase in growth over control yields in response to the addition of phosphorus as well as the lack of response to the addition of nitrogen alone indicates phosphorus limitaton. Maximum yield was achieved with the simultaneous addition of both nitrogen and phosphorus.

The mean inorganic nitrogen to orthophosphorus (N/P) ratios of 6/1 and 8/1 in the spring and summer, respectively, suggest primary limitation by nitrogen. The fall ratio of 20/1 suggests primary limitation by phosphorus (a mean N/P ratio of 14/1 or greater generally reflects phosphorus limitation). These ratios, however, are only approximate as nutrient concentrations in many of the samples were below the sensitivity of detection methods.

Data from the Lake Tahoe Council (1971) indicate the lake is limited by available nitrogen; Goldman (1974) reports Lake Tahoe is primarily nitrogen and iron sensitive; although phosphorous levels have some effect on algal growth in the lake.

IV. NUTRIENT LOADINGS
(See Appendix D for data)

For the determination of nutrient loadings, the Nevada National Guard collected monthly near-surface grab samples from each of the tributary sites indicated on the map (page v), except for the high runoff months of April, May and July when two samples were collected. Sampling was begun in November 1974, and was completed in October 1975.

Through an interagency agreement, stream flow estimates for the year of sampling and a "normalized" or average year were provided by the Nevada District Office of the USGS for the tributary sites nearest the lake.

In this report, nutrient loads for sampled tributaries were determined by using a modification of a USGS computer program for calculating stream loadings. Nutrient loads indicated for tributaries are those measured minus known point source loads, if any.

Nutrient loadings for unsampled "minor tributaries and immediate drainage" ("ZZ" of USGS) were estimated by using the mean annual nutrient loads, in $kg/km^2/year$, in the Upper Truckee River, Ward Creek, Third Creek, Trout Creek, Taylor Creek, General Creek and McKinney Creek at Stations A-2, B-1, D-1, J-1, K-1, N-1, and P-1 and multiplying the means by the ZZ area in km^2.

A. Waste Sources:

1. Known municipal - None

2. Known industrial - None

B. Annual Total Phosphorus Loading - Average Year:

1. Inputs -

Source	kg P/yr	% of total
a. Tributaries (nonpoint load) -		
A-2 Upper Truckee River	1,935	9.4
B-1 Ward Creek	395	1.9
D-1 Third Creek	245	1.2
J-1 Trout Creek	1,480	7.2
K-1 Taylor Creek	630	3.0
N-1 General Creek	375	1.8
P-1 McKinney Creek	155	0.7
b. Minor tributaries and immediate drainage (nonpoint load) -	6,680	32.3
c. Known municipal STP's - None		
d. Septic tanks - None		
e. Known industrial - None		
f. Direct precipitation* -	8,780	42.5
Total	20,675	100.0%

2. Outputs - A-1 Truckee River 3,440

3. Net annual P accumulation - 17,235

*Estimated (See NES Working Paper No. 175).

C. Annual Total Nitrogen Loading - Average Year:

1. Inputs -

Source		kg N/yr	% of total
a.	Tributaries (nonpoint load) -		
	A-2 Upper Truckee River	56,410	6.8
	B-1 Ward Creek	10,350	1.2
	D-1 Third Creek	3,095	0.4
	J-1 Trout Creek	12,520	1.5
	K-1 Taylor Creek	22,240	2.7
	N-1 General Creek	10,540	1.3
	P-1 McKinney Creek	6,600	0.8
b.	Minor tributaries and immediate drainage (nonpoint load) -	167,510	20.1
c.	Known municipal STP's - None		
d.	Septic tanks - None		
e.	Known industrial - None		
f.	Direct precipitation* -	541,765	65.2
	Total	831,030	100.0%

2. Outputs - A-1 Truckee River 76,385

3. Net annual N accumulation - 754,645

*Estimated (See NES Working Paper No. 175).

D. Mean Annual Nonpoint Nutrient Export by Subdrainage Area:

Tributary	kg P/km^2/yr	kg N/km^2/yr
Upper Truckee River	14	398
Ward Creek	16	412
Third Creek	16	200
Trout Creek	14	120
Taylor Creek	13	474
General Creek	19	530
McKinney Creek	12	500

E. Mean Nutrient Concentrations in Ungaged Streams:

Tributary	Mean Total P (mg/l)	Mean Total N (mg/l)
C-2 Unnamed Creek	0.010	0.507
E-1 Mill Creek	0.055	0.688
F-1 Secret Harbor Creek	0.028	1.006
G-1 Slaughterhouse Canyon Creek	0.052	1.082
W-1 Griff Creek	0.024	0.534
X-1 Edgewood Creek	0.039	0.374
Y-1 Heavenly Valley Creek	0.024	0.980
Z-1 Lonely Gulch Creek	0.020	0.870
1-Q Juniper Creek*	0.038	0.510
1-T Daggett Creek*	0.031	0.476
1-U Unnamed Creek in Water Canyon*	0.053	0.612
4-1 Martis Creek*	0.038	0.648

Phosphorus values in Mill Creek, Griff Creek, Edgewood Creek, and Lonely Gulch Creek are in close agreement with values reported by the Lake Tahoe Area Council in 1971, as are the nitrogen levels in Edgewood Creek. Nitrogen values in the other three creeks mentioned above, and nutrient levels in Secret Harbor Creek and Slaughterhouse Canyon Creek are approximately twice those reported by the Council with the exception of Lonely Gulch Creek in which the NES nitrogen value is four times as great.

*Special interest streams outside the Lake Tahoe watershed.

Heavenly Valley Creek was the subject of a study by Perkins, et. al. (1975) who found high levels of NO_3-N in the creek and traced these concentrations to sewage effluent spraying in the area five years before their study.

F. Yearly Loadings:

In the following table, the existing phosphorus annual loading is compared to the relationship proposed by Vollenweider (1975). Essentially, his "eutrophic" loading is that at which the receiving waters would become eutrophic or remain eutrophic; his "oligotrophic" loading is that which would result in the receiving water remaining oligotrophic or becoming oligotrophic if morphometry permitted. A "mesotrophic" loading would be considered one between "eutrophic" and "oligotrophic".

Note that Vollenweider's model may not apply to lakes with short hydraulic retention times or in which light penetration is severely restricted by high concentrations of suspended solids in the surface waters.

	Total Yearly Phosphorus Loading ($g/m^2/yr$)
Estimated loading for Lake Tahoe	0.04
Vollenweider's "eutrophic" loading	0.15
Vollenweider's "oligotrophic" loading	0.08

V. LITERATURE REVIEWED

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VI. APPENDICES

APPENDIX A

CONVERSION FACTORS

CONVERSION FACTORS

Hectares x 2.471 = acres

Kilometers x 0.6214 = miles

Meters x 3.281 = feet

Cubic meters x 8.107×10^{-4} = acre/feet

Square kilometers x 0.3861 = square miles

Cubic meters/sec x 35.315 = cubic feet/sec

Centimeters x 0.3937 = inches

Kilograms x 2.205 = pounds

Kilograms/square kilometer x 5.711 = lbs/square mile

APPENDIX B

TRIBUTARY FLOW DATA

TRIBUTARY FLOW INFORMATION FOR NEVADA 1/21/77

LAKE CODE 3205 LAKE TAHOE

TOTAL DRAINAGE AREA OF LAKE(SQ KM) 1307.9

TRIBUTARY	SUB-DRAINAGE AREA(SQ KM)	NORMALIZED FLOWS(CMS) JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
3205A1	1307.9	5.10	17.56	17.22	12.26	5.66	16.25	12.18	10.22	8.38	5.41	5.55	4.96	10.25
3205A2	141.9	3.14	1.70	2.78	4.47	11.04	9.49	2.86	0.76	0.42	0.45	1.39	1.64	3.35
3205B1	25.1	0.850	0.368	0.425	0.963	3.738	2.265	0.595	0.096	0.048	0.096	0.595	0.510	0.882
3205D1	15.5	0.153	0.139	0.176	0.244	0.651	0.736	0.215	0.074	0.062	0.091	0.116	0.125	0.232
3205J1	104.6	1.02	0.79	0.93	1.56	3.11	3.60	1.67	0.79	0.59	0.59	0.68	0.68	1.34
3205K1	46.9	2.01	0.93	0.93	1.47	4.47	3.94	1.02	0.28	0.19	0.28	1.16	1.33	1.51
3205N1	19.9	0.821	0.311	0.453	0.963	2.945	2.124	0.481	0.088	0.042	0.059	0.266	0.496	0.768
3205P1	13.2	0.538	0.210	0.311	0.623	1.954	1.416	0.311	0.057	0.028	0.040	0.176	0.283	0.495
3205Z1	445.5	8.86	4.53	5.95	11.16	34.83	24.78	6.91	1.56	0.82	1.22	5.41	5.21	9.29

SUMMARY

TOTAL DRAINAGE AREA OF LAKE = 1307.9
SUM OF SUB-DRAINAGE AREAS = 812.7

TOTAL FLOW IN = 213.64
TOTAL FLOW OUT = 123.74

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
3205A1	11	74	9.316	18	10.052				
	12	74	8.807	20	9.146				
	1	75	7.192	18	7.815				
	2	75	3.625	26	2.747				
	3	75	6.428	31	5.097				
	4	75	13.564	17	17.188	30	17.018		
	5	75	22.285	15	26.561	28	17.443		
	6	75	9.005	17	3.879				
	7	75	4.672	3	4.078	28	5.635		
	8	75	11.213	27	12.120				
	9	75	8.722	26	6.088				
	10	75	3.794	9	4.417				
3205A2	11	74	0.453	18	0.453				
	12	74	0.340	20	0.311				
	1	75	0.453	18	0.481				
	2	75	0.510	26	0.510				
	3	75	0.878	31	1.161				
	4	75	1.048	17	0.793	30	1.897		
	5	75	9.146	15	10.477	28	15.348		
	6	75	13.847	17	13.904				
	7	75	4.870	3	7.249	28	2.294		
	8	75	1.161	27	1.019				
	9	75	0.510	26	0.340				
	10	75	1.529	9	0.453				

LAKE CODE 3205 LAKE TAHOE

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
3205B1	11	74	0.079	18	0.088				
	12	74	0.091	20	0.091				
	1	75	0.091	18	0.082				
	2	75	0.093	26	0.102				
	3	75	0.150	31	0.249				
	4	75	0.229	17	0.173	30	0.396		
	5	75	2.464	15	2.379	28	4.474		
	6	75	4.899	17	4.870				
	7	75	1.104	3	1.812	28	0.396		
	8	75	0.161	27	0.110				
	9	75	0.059	26	0.040				
	10	75	0.280	9	0.091				
3205D1	11	74	0.110	16	0.110				
	12	74	0.127	20	0.130				
	1	75	0.093	18	0.099				
	2	75	0.102	26	0.093				
	3	75	0.122	31	0.164				
	4	75	0.178	17	0.153	30	0.283		
	5	75	0.595	15	0.595	28	0.793		
	6	75	1.133	17	1.501				
	7	75	0.396	3	0.793	28	0.150		
	8	75	0.130	27	0.125				
	9	75	0.074	26	0.062				
	10	75	0.195	9	0.119				
3205J1	11	74	0.566	17	0.481				
	12	74	0.538	20	0.510				
	1	75	0.481	18	0.481				
	2	75	0.538	26	0.595				
	3	75	0.651	31	0.708				
	4	75	0.736	17	0.736	30	1.019		
	5	75	2.718	15	3.313	28	3.936		
	6	75	4.502	17	5.097				
	7	75	1.812	3	2.492	28	1.161		
	8	75	0.906	27	0.850				
	9	75	0.680	26	0.595				
	10	75	0.793	9	0.680				
3205K1	11	74	0.142	17	0.113				
	12	74	0.164	20	0.153				
	1	75	0.311	18	0.340				
	2	75	0.651	26	0.481				
	3	75	0.736	31	0.878				
	4	75	0.651	17	0.566	30	0.595		
	5	75	3.681	15	4.644	28	6.230		
	6	75	5.210	17	6.173				
	7	75	1.246	3	0.821	28	0.153		
	8	75	0.170	27	0.187				
	9	75	0.193	26	0.173				
	10	75	1.133	9	0.425				

LAKE CODE 3205 LAKE TAHOE

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
3205N1	11	74	0.054	17	0.051				
	12	74	0.062	26	0.059				
	1	75	0.071	18	0.065				
	2	75	0.074	24	0.082				
	3	75	0.136	31	0.195				
	4	75	0.283	17	0.156	30	0.396		
	5	75	2.350	15	2.662	28	3.794		
	6	75	3.143	17	2.888				
	7	75	0.793	9	1.303	28	0.275		
	8	75	0.110	27	0.085				
	9	75	0.057	26	0.048				
	10	75	0.258	9	0.048				
3205P1	11	74	0.037	18	0.034				
	12	74	0.042	20	0.040				
	1	75	0.045	18	0.042				
	2	75	0.048	24	0.054				
	3	75	0.091	31	0.127				
	4	75	0.193	17	0.119	30	0.258		
	5	75	1.557	15	1.756	28	2.520		
	6	75	2.067	17	1.926				
	7	75	0.538	9	0.850	28	0.181		
	8	75	0.074	27	0.057				
	9	75	0.037	26	0.031				
	10	75	0.170	9	0.031				
3205Z2	11	74	1.416						
	12	74	1.274						
	1	75	1.416						
	2	75	1.614						
	3	75	2.435						
	4	75	3.398						
	5	75	28.600						
	6	75	45.307						
	7	75	12.233						
	8	75	2.577						
	9	75	1.161						
	10	75	3.596						

APPENDIX C

PHYSICAL AND CHEMICAL DATA

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320501
38 57 58.0 120 00 42.0 3
LAKE TAHOE
32005 NEVADA
150191

/TYPA/AMRNT/LAKE

11EPALES 04001002
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/03/18	09 45	0000	3.7	9.8	600	89	7.00	52	0.020	0.200K	0.020	0.003
	09 45	0005	3.9	9.6		92	7.30	51	0.020K	0.200K	0.020	0.004
	09 45	0025	3.8	9.6		91	6.10	52	0.020K	0.200K	0.020	0.003
	09 45	0050	3.8	9.8		91	6.50	53	0.020	0.200K	0.020	0.003
	09 45	0100	3.8	9.8		108	6.35	53	0.020K	0.200K	0.020K	0.002
	09 45	0150	3.8	9.8		91	6.40	53	0.020K	0.200K	0.020	0.003
	09 45	0200	3.8	9.8		89	6.10	54	0.020K	0.200K	0.020K	0.003
	09 45	0240	3.7	9.6		90	6.15	54	0.020K	0.200K	0.020K	0.003
75/06/27	12 40	0000	9.8	9.0	600	65	8.40		0.015	0.100	0.005	0.005K
	12 40	0005	9.6	4.8		70	8.40		0.012J	0.050K	0.005	0.005K
	12 40	0015	9.1	8.8		70	8.35		0.025	0.050	0.005	0.005K
	12 40	0040	8.1	9.2		69	8.35		0.015	0.100	0.005	0.005K
	12 40	0080	6.9	9.6		65	8.30		0.015	0.050K	0.005	0.005K
	12 40	0115	5.7	9.8		60	8.20		0.010	0.050K	0.005	0.005K
	12 40	0150	4.9	10.0		60	8.20		0.015	0.050K	0.005	0.005K
	12 40	0195	4.4	10.0		60	8.10		0.015	0.050K	0.005	0.005K
	12 40	0220	4.2	9.8		60	8.10		0.010	0.050K	0.005	0.005K
75/11/04	12 25	0000	12.9	8.8	600	53	7.90	44	0.020K	0.200K	0.020K	0.002K
	12 25	0005	12.8	8.6		53	8.00	44	0.020K	0.200K	0.020K	0.002K
	12 25	0020	12.8	8.6		53	8.00	40	0.020K	0.200K	0.020K	0.002K
	12 25	0050	12.6	8.8		53	8.00	37	0.020K	0.200K	0.020K	0.002K
	12 25	0090	12.3	8.6		51	8.00	37	0.020K	0.200K	0.020K	0.002K
	12 25	0130	11.7	9.4		51	8.00	37	0.020K	0.200K	0.020K	0.002K
	12 25	0175	9.5	10.2		47	8.00	40	0.020K	0.200K	0.020K	0.002K

K VALUE KNOWN TO BE LESS THAN INDICATED

J VALUE KNOWN TO BE ESTIMATED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320501
39 57 58.0 120 00 42.0 3
LAKE TAHOE
32005 NEVADA
150191

/TYPA/AMBNT/LAKE

11EPALES 04001002
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT REMNING PERCENT
75/03/18	09 45	0000	0.015	0.9	
	09 45	0005	0.007		
	09 45	0025	0.006		
	09 45	0050	0.007		
	09 45	0100	0.004		
	09 45	0150	0.004		
	09 45	0200	0.004		
	09 45	0240	0.005		
75/06/27	12 40	0000	0.010K	0.8	
	12 40	0005	0.010K		
	12 40	0015	0.010K		
	12 40	0040	0.010K		
	12 40	0080	0.010K		
	12 40	0115	0.010K		
	12 40	0150	0.010K		
	12 40	0195	0.010K		
	12 40	0220	0.010K		
75/11/04	12 25	0000	0.004	3.0	
	12 25	0005	0.003		
	12 25	0020	0.003		
	12 25	0050	0.003		
	12 25	0090	0.003		
	12 25	0130	0.003		
	12 25	0175	0.004		

K VALUE KNOWN TO BE LESS THAN INDICATED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320502
38 57 31.0 119 58 20.0 3
LAKE TAHOE
32005 NEVADA
150191

/TYPA/AMBNT/LAKE

11EPALES 04001002
0144 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/03/18	10 50	0000	4.0	9.8		93	6.30	54	0.020K	0.200K	0.020K	0.003
	10 50	0005	3.9	9.4		89	6.90	52	0.020K	0.200K	0.020K	0.002
	10 50	0025	4.0	9.8		90	6.60	38	0.020K	0.200K	0.020K	0.002
	10 50	0050	4.0	9.8		90	6.75	50	0.020K	0.200K	0.020K	0.005
	10 50	0075	4.0	9.6		89	6.80	46	0.020K	0.200	0.020K	0.003
	10 50	0100	4.0	9.8		88	6.80	46	0.020K	0.200K	0.020K	0.003
	10 50	0140	4.0	10.0		91	7.50	46	0.020K	0.200K	0.020K	0.003
75/11/04	12 00	0000	12.7	8.6	600	53	8.00	41	0.020K	0.200K	0.020K	0.002K
	12 00	0005	12.5	9.0		53	8.00	42	0.020K	0.200K	0.020K	0.002K
	12 00	0020	12.5	8.6		53	8.00	45	0.020K	0.200K	0.020K	0.002K
	12 00	0050	12.4	8.8		53	8.00	45	0.020K	0.200K	0.020K	0.002K
	12 00	0090	12.1	9.0		51	8.00	45	0.020K	0.200K	0.020K	0.002
	12 00	0130	11.1	9.4		49	8.10	43	0.020K	0.200K	0.020K	0.002K
	12 00	0175	10.0	10.0		47	8.10	48	0.020K	0.200K	0.020K	0.002

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT RFMNING PERCENT
75/03/18	10 50	0000	0.005	0.9	
	10 50	0005	0.005		
	10 50	0025	0.003		
	10 50	0050	0.005		
	10 50	0075	0.004		
	10 50	0100	0.004		
	10 50	0140	0.004		
75/11/04	12 00	0000	0.002K	0.5	
	12 00	0005	0.002K		
	12 00	0020	0.002		
	12 00	0050	0.003		
	12 00	0090	0.003		
	12 00	0130	0.003		
	12 00	0175	0.005		

K VALUE KNOWN TO BE LESS THAN INDICATED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320503
38 59 32.0 120 03 30.0 3
LAKE TAHOE
06017 NEVADA
150191

/TYPA/AMBNT/LAKE

11EPALES 04001002
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/03/24	09	25 0000	5.0	9.6	600	94	7.70	46	0.030	0.200K	0.040	0.014K
	09	25 0005	5.4	9.8			7.75	46	0.020	0.200K	0.020	0.011K
	09	25 0025	5.3	9.8		90	7.70	47	0.020	0.200K	0.020	0.011K
	09	25 0050	5.3	9.4		92	7.75	47	0.020K	0.200K	0.020K	0.012K
	09	25 0100	5.2	9.6		92	7.75	51	0.020	0.200K	0.020	0.015K
	09	25 0150	5.1	9.8		94	7.70	52	0.020K	0.200K	0.020K	0.012K
	09	25 0200	5.0	9.8		94	7.70	52	0.020K	0.200K	0.020K	0.011K
	09	25 0240	5.0	9.6		91	7.80	53	0.020K	0.200K	0.020K	0.012K
75/07/02	10	35 0000	10.8	8.4	240	73	8.00	52	0.030	0.300	0.020K	0.010
	10	35 0005	10.7	9.0		72	8.00	56	0.030	0.300	0.020K	0.014K
	10	35 0030	9.9	8.6		75	8.00	55	0.030	0.200	0.020K	0.011K
	10	35 0065	8.2	9.6		69	8.00	55	0.020	0.200	0.020K	0.011K
	10	35 0100	4.9	10.0		62	8.00	55	0.030	0.200	0.020K	0.011K
	10	35 0140	4.2	10.0		63	8.00	53	0.020	0.200	0.020K	0.003J
	10	35 0180	3.5	10.0		61	8.00	53	0.020	0.200	0.020K	0.011K
	10	35 0220	3.3	9.8		60	8.00	53	0.020	0.200K	0.020K	0.003J
75/11/04	11	20 0000	12.2	8.6	600	53	8.00	46	0.020K	0.200K	0.020K	0.002K
	11	20 0005	12.1	8.8		53	8.00	44	0.020K	0.200K	0.020K	0.002K
	11	20 0020	12.6	8.8		53	8.00	41	0.020K	0.200K	0.020K	0.002K
	11	20 0050	12.6	8.8		53	8.00	42	0.020K	0.200K	0.020K	0.002K
	11	20 0090	12.3	9.0		53	8.10	43	0.020K	0.200K	0.020K	0.002K
	11	20 0130	11.9	9.4		51	8.00	43	0.020K	0.200K	0.020K	0.002K
	11	20 0175	10.5	10.0		49	8.05	42	0.020K	0.200K	0.020K	0.002K

35

K VALUE KNOWN TO BE LESS THAN INDICATED

J VALUE KNOWN TO BE ESTIMATED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320503
38 59 32.0 120 03 30.0 3
LAKE TAHOE
06017 NEVADA

150191

/TYPA/AMBNT/LAKE

11EPALES 04001092
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT RFMNING PRCENT
75/03/24	09 25	0000	0.006	0.5	
	09 25	0005	0.007		
	09 25	0025	0.005		
	09 25	0050	0.006		
	09 25	0100	0.009		
	09 25	0150	0.007		
	09 25	0200	0.004		
	09 25	0240	0.004		
75/07/02	10 35	0000	0.008	0.4	
	10 35	0005	0.008		
	10 35	0030	0.005		
	10 35	0065	0.005		
	10 35	0100	0.005		
	10 35	0140	0.005		
	10 35	0180	0.005		
	10 35	0220	0.005		
75/11/04	11 20	0000	0.002K	0.4	
	11 20	0005	0.002K		
	11 20	0020	0.002K		
	11 20	0050	0.002		
	11 20	0090	0.002K		
	11 20	0130	0.002		
	11 20	0175	0.002		

K VALUE KNOWN TO BE LESS THAN INDICATED

STORET RETRIEVAL DATE 77/01/26
NATL EUTHORMICATION SURVEY
EPA-LAS VEGAS

320504
39 01 36.0 119 57 25.0 3
LAKE TAHOE
32005 NEVADA
150191

/TYPA/AMBNT/LAKE

11EPALES 04001002
0065 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORT-O MG/L P
75/03/24	10 20	0000	5.3	9.8	600	96	7.80	53	0.020K	0.200K	0.020K	0.011K
	10 20	0005	5.6	10.2		94	8.00	53	0.020K	0.300	0.020K	0.012K
	10 20	0025	5.6	9.8		92	7.85	54	0.020K	0.200K	0.020K	0.011K
	10 20	0040	5.3	10.0		93	7.75	53	0.020K	0.200K	0.020K	0.010K
	10 20	0050	5.3	10.0		92	7.85	51	0.020K	0.300	0.020K	0.010K
	10 20	0060	5.4	10.0		93	7.85	49	0.020K	0.200K	0.020K	0.002J
75/07/02	10 05	0000		8.0	240	79	8.10	50	0.030	0.200K	0.020K	0.010K
	10 05	0005	11.8	8.0		79	8.05	50	0.020	0.200K	0.020K	0.009K
	10 05	0015	11.7	8.0		82	8.10	50	0.030	0.200K	0.020K	0.009K
	10 05	0030	11.8	8.3		75	8.00	51	0.020	0.200K	0.020K	0.008K
	10 05	0050	10.3	8.8		69	8.00	52	0.020	0.200K	0.020K	0.004J
	10 05	0060	5.9	9.8		69	8.00	52	0.020	0.200K	0.020K	0.004J
75/11/04	10 50	0000	12.5	9.0	600	53	8.00	45	0.020K	0.200K	0.020K	0.002K
	10 50	0005	12.5	8.8		53	8.10	43	0.020K	0.200K	0.020K	0.002K
	10 50	0020	12.4	8.6		55	8.00	47	0.020K	0.200K	0.020K	0.002K
	10 50	0040	12.3	8.8		55	8.05	49	0.020K	0.200K	0.020K	0.002K
	10 50	0062	12.2	9.0		55	8.00	49	0.020K	0.200K	0.020K	0.002K

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT RFMNING PERCENT
75/03/24	10 20	0000	0.005	0.5	
	10 20	0005	0.004		
	10 20	0025	0.003		
	10 20	0040	0.002		
	10 20	0050	0.002		
	10 20	0060	0.002		
75/07/02	10 05	0000	0.005	0.6	
	10 05	0005	0.005		
	10 05	0015	0.004		
	10 05	0030	0.005		
	10 05	0050	0.005		
	10 05	0060	0.005		
75/11/04	10 50	0000	0.004	0.3	
	10 50	0005	0.002		
	10 50	0020	0.002		
	10 50	0040	0.002K		
	10 50	0062	0.002		

K VALUE KNOWN TO BE LESS THAN INDICATED

J VALUE KNOWN TO BE ESTIMATED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320505
39 04 34.0 120 02 55.0 3
LAKE TAHOE
06061 NEVADA
150191

/TYPA/AMBNT/LAKE

11EPALES 04001002
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/03/24	12 40	0000	5.1	9.8	600	96	7.80	47	0.020K	0.200K	0.020K	0.010K
	12 40	0005	5.3	9.8		93	7.80	48	0.020K	0.200K	0.020K	0.010K
	12 40	0025	5.2	9.6			7.90	45	0.020K	0.200K	0.020K	0.010K
	12 40	0050	5.1	9.8		94	7.80	43	0.020	0.200K	0.030	0.005K
	12 40	0100	5.2	9.8		94	7.85	44	0.020K	0.200K	0.020K	0.009K
	12 40	0150	5.2	9.9		93	7.70	44	0.020K	0.200K	0.020	0.005K
	12 40	0200	5.2	9.8		93	7.90	44	0.020K	0.200K	0.020	0.005K
	12 40	0240	5.2	9.6		93	7.90	44	0.020K	0.200K	0.020K	0.005K
75/07/02	09 40	0000	10.9	9.0	240	73	8.05	49	0.020K	0.200K	0.020K	0.009K
	09 40	0005	10.9	8.6		74	7.90	45	0.020	0.200K	0.020K	0.002K
	09 40	0030	10.7	8.8		74	7.90	46	0.020	0.200K	0.020K	0.002K
	09 40	0065	10.0	8.6		73	7.95	47	0.020K	0.200K	0.020K	0.002K
	09 40	0100	5.9	9.8		65	8.10	53	0.030	0.200K	0.020K	0.010K
	09 40	0140	4.5	10.0		64	8.10	56	0.030	0.200K	0.020K	0.010K
	09 40	0180	3.4	10.2		63	8.10	54	0.020	0.200K	0.020K	0.009K
	09 40	0220	3.4	10.0		62	8.10	51	0.030	0.200	0.020K	0.011K
75/11/04	13 05	0000	11.9	9.0	600	79	8.10	46	0.020K	0.200K	0.020K	0.002K
	13 05	0005	11.6	8.8		96	8.10	44	0.020K	0.200K	0.020K	0.002K
	13 05	0030	11.4	8.4		70	8.10	42	0.020K	0.200K	0.020K	0.002
	13 05	0070	11.4	8.6		78	8.10	40	0.020K	0.200K	0.020K	0.002K
	13 05	0123	10.7	9.2		51	8.10	43	0.020K	0.200K	0.020K	0.002K
	13 05	0160	7.8	10.0		66	8.10	46	0.020K	0.200K	0.020K	0.002K
	13 05	0200	6.5	10.8		63	8.10	46	0.020K	0.200K	0.020K	0.002K
	13 05	0240	5.7	9.8		64	8.00	47	0.020K	0.200K	0.020K	0.002K

K VALUE KNOWN TO BE LESS
THAN INDICATED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320505
39 04 34.0 120 02 55.0 3
LAKE TAHOE
06061 NEVADA
150191

/TYPA/AMBNT/LAKE

11EPALES 04001002
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT REMNING PERCENT
75/03/24	12 40	0000	0.003	0.4	
	12 40	0005	0.002		
	12 40	0025	0.002K		
	12 40	0050	0.002K		
	12 40	0100	0.002K		
	12 40	0150	0.002K		
	12 40	0200	0.002K		
	12 40	0240	0.002K		
75/07/02	09 40	0000	0.007	0.4	
	09 40	0005	0.005		
	09 40	0030	0.005		
	09 40	0065	0.005		
	09 40	0100	0.004		
	09 40	0140	0.005		
	09 40	0180	0.005		
	09 40	0220	0.006		
75/11/04	13 05	0000	0.002	0.3	
	13 05	0005	0.002		
	13 05	0030	0.003		
	13 05	0070	0.004		
	13 05	0123	0.003		
	13 05	0160	0.003		
	13 05	0200	0.004		
	13 05	0240	0.003		

K VALUE KNOWN TO BE LESS
THAN INDICATED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320506
39 07 20.0 119 57 28.0 3
LAKE TAHOE
32025 NEVADA

150191

/TYPA/AMBNT/LAKE

11EPALES 04001002
0170 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/03/24	13	25 0000	5.5	9.8	600	96	7.80	44	0.020K	0.200K	0.020K	0.012K
	13	25 0005	5.5	9.8		92	7.80	45	0.020K	0.200K	0.020K	0.006K
	13	25 0025	5.4	9.8		91	7.75	45	0.020K	0.200K	0.020	0.008J
	13	25 0050	5.4	9.6		92	7.80	44	0.020K	0.200K	0.020K	0.005J
	13	25 0100	5.3	10.0		92	7.70	46	0.020K	0.200K	0.020K	0.009K
	13	25 0125	5.3	10.0		93	7.60	46	0.020K	0.200K	0.020K	0.005J
	13	25 0160	5.3	9.9		93	7.90	46	0.020K	0.200K	0.020K	0.012K
75/07/02	09	20 0000	11.8	8.6	240	81	8.10	56	0.290	0.200	0.020K	0.010K
	09	20 0005	11.4	8.3		72	8.10	48	0.030	0.200K	0.030	0.010K
	09	20 0020	11.8	8.6		74	8.10	51	0.040	0.200K	0.020	0.008K
	09	20 0050	11.4	8.6		77	8.20	47	0.030	0.200K	0.020K	0.004J
	09	20 0060	7.4	9.2		64	8.10	50	0.020	0.200K	0.020K	0.010K
	09	20 0090	5.6	9.6		63	8.10	50	0.030	0.200K	0.020K	0.004J
	09	20 0110	5.0	9.6		60	8.20	50	0.030	0.200K	0.020K	0.004J
	09	20 0150	4.5	7.6		68	8.10	50	0.020	0.200K	0.020K	0.009K
	09	20 0180	4.0	10.0		62	8.10	48	0.030	0.200K	0.020K	0.010K
	09	20 0210	3.8	9.8		62	8.05	50	0.020	0.200	0.020K	0.009K
75/11/04	14	30 0000	11.8	8.4	600	79	8.10	48	0.020K	0.200K	0.020K	0.002K
	14	30 0005	11.6	8.6		78	8.10	49	0.020K	0.200K	0.020K	0.002K
	14	30 0030	11.4	8.8		75	8.10	52	0.020K	0.200K	0.020K	0.002K
	14	30 0070	11.1	8.8		74	8.10	44	0.020K	0.200K	0.020K	0.002K
	14	30 0117	10.3	9.2		75	8.10	0R	0.020K	0.200K	0.000R	0.000R
	14	30 0170	7.9	10.0		70	8.10	49	0.020K	0.0004	0.020K	0.002K
	14	30 0200	7.2	10.8		68	8.10	49	0.020K	0.200K	0.020K	0.002K
	14	30 0236	6.4	10.0		64	8.10	50	0.020K	0.200K	0.020K	0.002K

K VALUE KNOWN TO BE LESS THAN INDICATED

J VALUE KNOWN TO BE ESTIMATED

R VALUE INDICATES NO RESULT REPORTED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320506
39 07 20.0 119 57 28.0 3
LAKE TAHOE
32025 NEVADA
150191

/TYPA/AMBNT/LAKE

11EPALES 04001002
0170 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT RFMNING PERCENT
75/03/24	13 25	0000	0.003	0.5	
	13 25	0005	0.002K		
	13 25	0025	0.004		
	13 25	0050	0.007		
	13 25	0100	0.008		
	13 25	0125	0.006		
	13 25	0160	0.007		
75/07/02	09 20	0000	0.009	0.5	
	09 20	0005	0.006		
	09 20	0020	0.005		
	09 20	0050	0.006		
	09 20	0060	0.005		
	09 20	0090	0.005		
	09 20	0110	0.004		
	09 20	0150	0.005		
	09 20	0180	0.005		
	09 20	0210	0.005		
75/11/04	14 30	0000	0.003	0.3	
	14 30	0005	0.002		
	14 30	0030	0.002		
	14 30	0070	0.002		
	14 30	0117	0.002		
	14 30	0170	0.000R		
	14 30	0200	0.002		
	14 30	0236	0.002		

K VALUE KNOWN TO BE LESS THAN INDICATED

R VALUE INDICATES NO RESULT REPORTED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320507
39 09 55.0 120 02 05.0 3
LAKE TAHOE
06061 NEVADA

150191

/TYPA/AMBNT/LAKE

11EPALES 04001002
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/03/24	14	0000	5.5	9.8	600	95	7.85	47	0.020K	0.200K	0.020K	0.012K
	14	0005	5.4	9.8		95	8.30	47	0.020K	0.200K	0.020K	0.004J
	14	0025	5.5	9.8		98	7.80	45	0.020K	0.200K	0.020K	0.009K
	14	0075	5.2	9.8		92	7.90	44	0.020K	0.400	0.020K	0.009K
	14	0150	5.4	9.8		92	7.90	45	0.020K	0.200K	0.020K	0.010K
	14	0240	5.3	9.6		93	7.85	46	0.020K	0.200K	0.020K	0.003J
75/07/02	08	0000	9.8	8.6		67	8.10	45	0.020	0.200K	0.030	0.011K
	08	0005	9.6	8.8		67	8.10	44	0.020K	0.200K	0.020K	0.010K
	08	0030	9.5	9.2		67	8.10	43	0.020K	0.200K	0.020K	0.011K
	08	0065	9.2	9.0		67	8.10	46	0.020	0.200K	0.020K	0.002
	08	0100	6.7	9.8		62	8.10	45	0.020K	0.200K	0.020K	0.002K
	08	0140	4.4	9.8		59	8.10	47	0.020	0.200K	0.020K	0.002K
	08	0180	3.6	10.2		57	8.10	47	0.020	0.200K	0.020K	0.002K
	08	0220	3.4	10.0		57	8.05	48	0.030	0.200K	0.020K	0.004K
75/11/04	13	0000	11.7	8.4	600	73	7.80	42	0.020K	0.200K	0.020K	0.002K
	13	0005	11.6	8.6		78	8.00	40	0.020K	0.200K	0.020K	0.002K
	13	0030	11.5	9.0		73	8.00	41	0.020K	0.200K	0.020K	0.002K
	13	0070	11.4	8.6		72	8.00	42	0.020K	0.200K	0.020K	0.002K
	13	0125	8.4	10.0		69	8.20	42	0.020K	0.200K	0.020K	0.002K
	13	0160	7.3	10.4		66	8.30	42	0.020K	0.200K	0.020K	0.002K
	13	0200	5.9	10.2		66	8.20	41	0.020K	0.200K	0.020K	0.002
	13	0240	5.8	10.2		60	8.10	46	0.020K	0.200K	0.020K	0.002K

K VALUE KNOWN TO BE LESS THAN INDICATED

J VALUE KNOWN TO BE ESTIMATED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320507
39 09 55.0 120 02 05.0 3
LAKE TAHOE
06061 NEVADA

150191

/TYPA/AMBNT/LAKE

11EPALES 04001002
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT RFMNING PERCENT
75/03/24	14 05	0000	0.008	0.5	
	14 05	0005	0.006		
	14 05	0025	0.007		
	14 05	0075	0.007		
	14 05	0150	0.007		
	14 05	0240	0.006		
75/07/02	08 20	0000	0.005	0.5	
	08 20	0005	0.005		
	08 20	0030	0.006		
	08 20	0065	0.005		
	08 20	0100	0.005		
	08 20	0140	0.005		
	08 20	0180	0.005		
	08 20	0220	0.005		
75/11/04	13 00	0000	0.004	0.4	
	13 00	0005	0.003		
	13 00	0030	0.003		
	13 00	0070	0.004		
	13 00	0126	0.003		
	13 00	0160	0.003		
	13 00	0200	0.004		
	13 00	0240	0.003		

STORET RETRIEVAL DATE 77/01/28
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

32050H
39 07 37.0 120 07 35.0 3
LAKE TAHOE
06061 NEVADA

150192

/TYPA/AMBNT/LAKE

:1EPALES 04001002
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/03/24	14	05 0000	4.5	9.8	425		8.90	41	0.020K	0.200K	0.020K	0.012K
	14	05 0005	4.5	9.6		95	7.60	40	0.020K	0.200K	0.020K	0.011K
	14	05 0025	4.5	9.8		93	7.80	42	0.020K	0.200K	0.020K	0.011K
	14	05 0075	4.4	9.6		92	7.40	56	0.020K	0.200K	0.020K	0.004J
	14	05 0125	4.4	9.6		93	7.50	55	0.020K	0.200K	0.020K	0.005J
	14	05 0175	4.5	9.6		94	7.20	54	0.020K	0.200K	0.020K	0.004J
	14	05 0225	4.4	10.0		96	7.70	51	0.020K	0.200K	0.020	0.011K
75/11/04	10	15 0000	11.5	9.2	600	77	7.90	42	0.020K	0.200K	0.020K	0.002K
	10	15 0005	11.5	8.4		79	8.00	44	0.020K	0.200K	0.020K	0.002
	10	15 0030	11.4	8.6		76	8.00	41	0.020K	0.200K	0.020K	0.002
	10	15 0070	11.2	8.8		76	8.00	40	0.020K	0.200K	0.020K	0.002K
	10	15 0114	10.7	9.0		73	8.00	37	0.020K	0.200K	0.020K	0.002K
	10	15 0160	6.7	9.8		66	7.90	34	0.020K	0.200K	0.020K	0.002K
	10	15 0200	5.8	9.8		64	7.20	34	0.020K	0.200K	0.020K	0.002K
	10	15 0240	5.4	9.2		63	7.60	36	0.020K	0.200K	0.020K	0.002K

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT RFMNING PERCENT
75/03/24	14	05 0000	0.009	0.5	
	14	05 0005	0.007		
	14	05 0025	0.006		
	14	05 0075	0.006		
	14	05 0125	0.005		
	14	05 0175	0.006		
	14	05 0225	0.006		
75/11/04	10	15 0000	0.003	0.2	
	10	15 0005	0.005		
	10	15 0030	0.004		
	10	15 0070	0.003		
	10	15 0114	0.003		
	10	15 0160	0.003		
	10	15 0200	0.003		
	10	15 0240	0.003		

K VALUE KNOWN TO BE LESS THAN INDICATED

J VALUE KNOWN TO BE ESTIMATED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320509
39 13 45.0 120 02 03.0 3
LAKE TAHOE
06061 NEVADA

150191

/TYPA/AMBNT/LAKE

11EPALES 04001002
0194 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/03/24	15 15	0000	4.6	9.4	420	94	7.80	51	0.020K	0.200	0.020K	0.005J
	15 15	0005	4.5	9.6		95	7.90	50	0.020K	0.200K	0.020K	0.004J
	15 15	0025	4.5	9.6		95	7.60	50	0.020K	0.200	0.020K	0.003J
	15 15	0050	4.5	9.4		96	7.50	53	0.020K	0.200K	0.020K	0.009K
	15 15	0090	4.5	9.6		94	7.70	53	0.020K	0.200K	0.020K	0.010K
	15 15	0140	4.4	9.6		92	7.90	53	0.020K	0.200K	0.020K	0.004J
	15 15	0190	4.4	9.6		109	7.80	53	0.020K	0.200K	0.020K	0.005J
75/07/02	07 50	0000	11.2		240	80	8.00	53	0.040	0.300	0.020K	0.009
	07 50	0005	11.2	9.0		81	8.10	53	0.030	0.200K	0.020K	0.004
	07 50	0020	11.2	8.4		77	8.10	56	0.020	0.200K	0.020K	0.003
	07 50	0040	11.2	8.6		79	8.10	55	0.020	0.200K	0.020K	0.002
	07 50	0060	11.7	8.6		55	8.10	54	0.030	0.200K	0.020K	0.003
	07 50	0080	6.8	9.6		70	8.10	53	0.020	0.200K	0.020K	0.002
	07 50	0120	5.2	10.0		58	8.15	52	0.030	0.200K	0.020K	0.003
	07 50	0160	4.5	10.0		55	8.20	53	0.030	0.200K	0.020K	0.002
	07 50	0200	3.5	10.0		58	8.10	53	0.020	0.200K	0.020K	0.002
75/11/04	09 30	0000	11.5		600	90	7.90	35	0.020K	0.200K	0.020K	0.002K
	09 30	0005	11.5	8.4		95	7.90	35	0.020K	0.200K	0.020K	0.002K
	09 30	0030	11.5	8.6		97	8.00	36	0.020K	0.200K	0.020K	0.002K
	09 30	0075	11.5	8.6		94	7.95	39	0.020K	0.200K	0.020K	0.002K
	09 30	0117	10.2	8.6		119	8.10	38	0.020K	0.200K	0.020K	0.002K
	09 30	0170	7.0	11.0		120	8.20	40	0.020K	0.200K	0.020K	0.002K
	09 30	0216	5.4	9.4		94	7.90	38	0.020K	0.200K	0.020K	0.002K

K VALUE KNOWN TO BE LESS THAN INDICATED

J VALUE KNOWN TO BE ESTIMATED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320509
39 13 45.0 120 02 03.0 3
LAKE TAHOE
06061 NEVADA
150191

/TYPA/AMBNT/LAKE

11EPALES 04001002
0194 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT RFMNING PERCENT
75/03/24	15	15 0000	0.007	0.5	
	15	15 0005	0.006		
	15	15 0025	0.007		
	15	15 0050	0.006		
	15	15 0090	0.006		
	15	15 0140	0.005		
	15	15 0190	0.007		
75/07/02	07	50 0000	0.014	0.3	
	07	50 0005	0.009		
	07	50 0020	0.008		
	07	50 0040	0.009		
	07	50 0060	0.007		
	07	50 0080	0.008		
	07	50 0120	0.008		
	07	50 0160	0.008		
	07	50 0200	0.010		
75/11/04	09	30 0000	0.003	0.4	
	09	30 0005	0.003		
	09	30 0030	0.003		
	09	30 0075	0.007		
	09	30 0117	0.003		
	09	30 0170	0.003		
	09	30 0218	0.003		

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320510
39 14 00.0 119 57 40.0 3
LAKE TAHOE
32031 NEVADA

150191

/TYPA/AMHNT/LAKE

11EPALES 04001002
0999 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
75/03/24	14	45 0000	5.4	9.8	600	93	7.80	47	0.020K	0.200K	0.020K	0.005J
	14	45 0005	5.4	9.6		94	7.90	48	0.020K	0.200K	0.020K	0.010K
	14	45 0025	5.4	10.0		95	7.85	48	0.020K	0.200K	0.020K	0.010K
	14	45 0050	5.4	10.0		93	8.10	50	0.020K	0.200K	0.020K	0.010K
	14	45 0100	5.3	10.0		91	7.80	50	0.020K	0.200K	0.020K	0.009K
	14	45 0150	5.3	9.8		94	7.70	56	0.020K	0.200K	0.020K	0.014K
	14	45 0200	5.3	9.6		95	7.90	52	0.020K	0.200K	0.020K	0.013K
	14	45 0240	5.3	9.8		95	7.70	55	0.020K	0.200K	0.020K	0.005J
75/07/02	08	30 0000	11.8	8.4	240	74	8.10	53	0.030	0.200K	0.020K	0.010
	08	30 0005	11.7	8.6		77	8.10	51	0.040	0.200K	0.020K	0.004
	08	30 0020	11.6	8.4		78	8.10	54	0.020	0.200K	0.020K	0.003
	08	30 0040	10.8	8.5		75	8.20	53	0.030	0.200K	0.020K	0.010K
	08	30 0070	8.4	9.8		69	8.15	51	0.020	0.200K	0.020K	0.011K
	08	30 0100	6.3	9.4		69	8.20	55	0.030	0.200K	0.020K	0.005
	08	30 0120	5.7			55	8.20	54	0.020	0.200K	0.020K	0.005
	08	30 0150	4.7	9.6		54	8.15	55	0.030	0.200K	0.020K	0.005
	08	30 0180	4.7	10.0		64	8.20	55	0.020	0.200K	0.020K	0.004
	08	30 0210	4.2	10.0		60	8.15	53	0.030	0.200K	0.020K	0.003
75/11/04	08	45 0000	11.6	8.6	600	89	7.65	41	0.020K	0.200K	0.020K	0.002K
	08	45 0005	11.6	9.0		87	7.80	39	0.020K	0.200K	0.020K	0.002K
	08	45 0030	11.6	8.6		91	7.80	40	0.020K	0.200K	0.020K	0.002K
	08	45 0070	11.5	8.8		92	7.85	42	0.020K	0.200K	0.020K	0.002K
	08	45 0105	11.4	8.5		93	7.90	44	0.020K	0.200K	0.020K	0.002K
	08	45 0150	9.8	9.4		90	7.90	36	0.020K	0.200K	0.020K	0.002K
	08	45 0195	7.8	8.2		90	7.90	35	0.020K	0.200K	0.020K	0.002K
	08	45 0240	7.1	10.0		94	7.90	34	0.020K	0.200K	0.020K	0.002K

K VALUE KNOWN TO BE LESS THAN INDICATED

J VALUE KNOWN TO BE ESTIMATED

STORET RETRIEVAL DATE 77/01/26
NATL EUTROPHICATION SURVEY
EPA-LAS VEGAS

320510
39 14 00.0 119 57 40.0 3
LAKE TAHOE
32031 NEVADA
150191

11EPALES 04001002
0999 FEET DEPTH CLASS 00

/TYPA/AMBNT/LAKE

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT REMNING PERCENT
75/03/24	14 45	0000	0.007	0.7	
	14 45	0005	0.006		
	14 45	0025	0.006		
	14 45	0050	0.006		
	14 45	0100	0.007		
	14 45	0150	0.008		
	14 45	0200	0.007		
	14 45	0240	0.006		
75/07/02	08 30	0000	0.015	0.3	
	08 30	0005	0.010		
	08 30	0020	0.008		
	08 30	0040	0.008		
	08 30	0070	0.007		
	08 30	0100	0.007		
	08 30	0120	0.007		
	08 30	0150	0.008		
	08 30	0180	0.008		
	08 30	0210	0.007		
75/11/04	08 45	0000	0.003	0.5	
	08 45	0005	0.003		
	08 45	0030	0.003		
	08 45	0070	0.003		
	08 45	0105	0.003		
	08 45	0150	0.003		
	08 45	0195	0.004		
	08 45	0240	0.004		

APPENDIX D

TRIBUTARY AND WASTEWATER TREATMENT PLANT DATA

STORET RETRIEVAL DATE 77/01/22
NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

/TYPA/AMBNT/STREA

3205A1
39 10 00.0 120 08 38.0 4
TRUCKEE RIVER
32 7.5 TAHOE CITY
0/LAKE TAHOE 150142
BRDG BELO DAM ON HWY 89 .5 S OF TAHOE
11EPALES 04001004
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/18	11	45	0.004	0.100K	0.020	0.005K	0.010K
74/12/20	11	50	0.004	0.100	0.010	0.005K	0.010K
75/01/16	10	30	0.012	0.150	0.008K	0.005	0.010K
75/02/26	13	10	0.005	0.050	0.030	0.005K	0.010
75/03/31	10	40	0.005	0.100	0.015	0.005K	0.010K
75/04/17	12	30	0.005	1.000	0.005K	0.005K	0.010
75/04/30	12	30	0.005	0.100	0.005K	0.005K	0.010K
75/05/15	13	20	0.010	0.050K	0.020	0.005K	0.010K
75/05/28	11	30	0.005	0.050	0.005	0.005	0.015
75/06/17	11	50	0.005	0.100	0.005	0.005K	0.010K
75/07/03	10	45	0.015	0.800	0.075	0.010	0.010
75/07/29	12	40	0.015	1.750	0.025	0.015	0.020
75/08/27	12	40	0.005	0.050		0.005K	0.010
75/09/26	12	40	0.005	0.100K	0.005	0.005K	0.015
75/10/04	13	00	0.010	0.100K	0.005K	0.005K	0.010K

50

K VALUE KNOWN TO BE LESS THAN INDICATED

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STORET RETRIEVAL DATE 77/01/22
NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

/TYPA/A/MULT/STORE-

3C05A2
3N 55 20.0 119 59 23.0 4
UPPER TRUCKEE RIVER
32 7.5 S LK TAHOE
T/LAKE TAHOE 1S0191
BRDG ON US RT 50 1.3 MI SW OF S TAHOE HS
11EPALES 04001004
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO3&NO2 -TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/18	10 10		0.630	0.800	0.030	0.005	0.015K
74/12/20	09 30		0.084	0.800	0.015	0.005	0.010K
75/01/14	09 45		0.084	0.100	0.012	0.005	0.010K
75/02/26	13 40		0.080	0.400	0.035	0.020	0.020
75/03/31	14 20		0.350	0.150	0.020	0.005	0.030
75/04/17	14 30		0.040	0.450	0.085	0.010	0.010
75/04/30	14 00		0.080	0.050K	0.010	0.010	0.030
75/05/15	15 20		0.050	0.400	0.020	0.005	0.040
75/05/28	14 20		0.140	0.150	0.020	0.010	0.040
75/06/17	14 45		0.015	0.150	0.010	0.010	0.010
75/07/03	11 45		0.020	0.550	0.120	0.005	0.030
75/07/28	12 20		0.020	0.550	0.015	0.005	0.010K
75/08/27	14 00		0.040	0.400		0.005K	0.010K
75/09/26	14 50		0.035	0.400	0.300	0.005	0.020
75/10/04	14 20		0.045	0.150	0.010	0.010	0.010

K VALUE KNOWN TO BE LESS THAN INDICATED

Reproduced from best available copy.

STORET RETRIEVAL DATE 77/01/22
LAKE TAHOE NUTRIENT SURVEY
EPA- LAS VEGAS

320521
39 07 55.0 120 09 20.0 4
ANGORA CREEK
3 7.5 TAHOE CITY
TAHOE BASIN 16010202
HWY 89 .2 MI S OF SUNNYSIDE
11EPALES 04001004
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO3+NO2 TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/14	11 30		0.004	0.200	0.030	0.015	0.020
74/12/20	11 45		0.002	0.500	0.020	0.008K	0.010
75/01/14	11 00		0.024	1.000	0.012	0.012	0.015
75/02/26	13 20		0.035	0.225	0.020	0.015	0.020
75/03/31	11 10		0.035	0.300	0.025	0.010	0.030
75/04/17	12 40		0.025	1.650	0.015	0.010	0.010
75/04/30	12 40		0.020	0.300	0.015	0.010	0.010
75/05/15	13 30		0.050	0.056K	0.010	0.010	0.010
75/05/28	11 45		0.025	0.100	0.010	0.050	0.020
75/06/17	12 10		0.010	0.450	0.005	0.005	0.010K
75/07/03	10 00		0.005	0.250	0.010	0.005K	0.010
75/07/24	13 00		0.005	0.450	0.010	0.010	0.010
75/08/27	12 30		0.005	0.050K		0.010	0.010
75/09/26	13 00		0.005	0.100K	0.030	0.010	0.040
75/10/09	13 20		0.010	0.100K	0.010	0.010	0.010

92

K VALUE KNOWN TO BE LESS THAN INDICATED

STORET RETRIEVAL DATE 77/03/22
NATIONAL EUTROPHICATION SURVEY
EPA - LAS VEGAS

STATION DESCRIPTION

320502
39 15 20.0 120 02 55.0 4
UNNAMED CREEK
32 7.5 MANTIS PEAK
17LAKE TAHOE 1801[illegible]
MOUTH ON DRY NO .5 M N OF TAHOE VISTA STP
11PLACER 0400100[illegible]
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00530 SUSPENDED SOLIDS TOT NFLT MG/L	00625 TOT KJEL N TOTAL MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
75/05/15	12 2		0.010	0.150	0.010	0.005	0.010K
75/05/28	11 2		0.005	0.050K	0.010	0.010	0.010
75/06/17	11 1		0.005	1.250	0.030	0.005	0.010K
75/07/03	09 3[illegible]		0.005	0.100	0.015	0.005	0.010

K VALUE KNOWN TO BE LESS
THAN INDICATED

STORET RETRIEVAL DATE 77/01/22
NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

3205D1
39 14 25.0 119 56 45.0 4
THIRD CREEK
32 7.5 MARLETTE LK
T/LAKE TAHOE 150191
BRDG ON HWY 28 IN SE INCLINE VILLAGE
11EPALES 04001004
0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/STREAM

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/16	10 00		0.016	0.100K	0.025	0.005	0.010
74/12/20	13 20		0.008	0.800	0.015	0.010	0.020
75/01/18	09 23		0.044	0.900	0.016	0.007	0.010
75/02/26	11 05		0.045	0.750	0.025	0.016	0.020
75/03/31	10 00		0.050	0.250	0.025	0.010	0.050
75/04/17	10 50		0.040	1.250	0.015	0.010	0.020
75/04/30	11 20		0.045	0.100	0.015	0.015	0.030
75/05/15	11 40		0.070	0.250	0.035	0.010	0.050
75/05/28	11 10		0.035	0.050	0.015	0.010	0.040
75/06/17	14 30		0.015	0.250	0.010	0.010	0.085
75/07/03	09 15		0.005	0.500	0.015	0.005	0.020
75/07/28	10 40		0.020	0.600	0.090	0.015	0.015
75/08/27	10 30		0.010	0.100		0.010	0.030
75/09/26	11 20		0.005	0.100K	0.015	0.010	0.020
75/10/09	11 00		0.005	0.100	0.030	0.010	0.010

K VALUE KNOWN TO BE LESS THAN INDICATED

STORET RETRIEVAL DATE 77/01/22
NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

/TYPA/AMBNT/STREAM

3205E1
39 14 10.0 119 55 55.0 4
MILL CREEK
32 7.5 MARLETTE LK
T/LAKE TAHOE 150191
SEC RD BRDG .5 MI RELO INCLINE VLG STP
11EPALES 04001004
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
75/03/31	09 20		0.105	0.150	0.025	0.035	0.080
75/04/17	10 50		0.010	0.300	0.015	0.030	
75/04/30	11 20		0.030	0.500	0.270	0.030	0.100
75/05/15	11 30		0.025	0.250	0.055	0.020	0.060
75/05/28	11 00		0.010	0.500	0.010	0.020	0.060
75/06/17	14 25		0.005	1.500	0.030	0.020	0.040
75/07/03	09 10		0.010	0.650	0.050	0.015	0.020
75/07/28	10 30		0.005	1.450	0.035	0.025	0.025

STORET RETRIEVAL DATE 77/01/22
NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

3205F1
39 08 30.0 119 55 30.0 4
SECRET HARBOR CREEK
32 7.5 MARLETTE LK
T/LAKE TAHOE 150191
HRDG ON HWY 28 7 MI S OF INCLINE VILLAGE
11EPALES 04001004
0000 FEET DEPTH CLASS 00

/TYPA/AMNT/STREAM

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	10 45		0.120	0.300	0.055	0.005	0.020
74/12/20	13 30		0.152	0.800	0.020	0.005	0.010
75/01/18	09 03		0.096	2.900	0.100	0.007	
75/02/26	10 25		0.085	1.150	0.140	0.010	0.050
75/03/31	09 00		0.080	1.200	0.315	0.020	0.090
75/04/17	10 20		0.120	1.100	0.010	0.005	0.040
75/04/30			0.070	0.800	0.030	0.005K	0.020
75/05/15	11 20		0.035	0.250	0.030	0.005	0.020
75/05/28	10 40		0.020	0.850	0.015	0.005	0.020
75/06/17	14 10		0.025	1.400	0.035	0.010	0.010
75/07/03	09 00		0.095	0.400	0.050	0.005	0.020
75/07/28	10 20		0.090	0.450	0.015	0.010	0.010
75/08/27	10 20		0.115	0.200	0.005K	0.005	0.010K
75/09/26	11 00		0.150	1.800	0.210	0.005	0.020
75/10/09	10 50		0.130	0.100	0.005K	0.005	0.010K

25

K VALUE KNOWN TO BE LESS THAN INDICATED

STORET RETRIEVAL DATE 77/01/22
NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

3205G1
39 06 10.0 119 56 40.0 4
SLAUGHTERHOUSE CYN CRK
32 7.5 GLENBROOK
T/LAKE TAHOE 150191
BRDG ON DRT RD 1 MI NW OF GLENBROOK
11EPALES 04001004
0000 FEET DEPTH CLASS 00

/TYPE/AMBNT/STREAM

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	11 05		0.032	0.500	0.050	0.010	0.020
74/12/20	09 50		0.040	1.800	0.040	0.010	0.030
75/01/18	14 30		0.124	0.650	0.056	0.010	0.025
75/02/26	13 20		0.145	0.850	0.135	0.010	0.040
75/03/17	15 30		0.230	1.750	0.100	0.022	0.040
75/03/31	14 20		0.180	0.700	0.075	0.020	0.060
75/04/30	15 00		0.220	0.450	0.075	0.031	0.050
75/05/15	11 00		0.260	0.950	0.055	0.020	0.050
75/05/28	15 20		0.075	0.850	0.035	0.020	0.070
75/06/17	14 00		0.050	1.300	0.040	0.025	0.140
75/07/03	12 40		0.075	0.900	0.035	0.020	0.090
75/07/28	15 20		0.050	0.800	0.025	0.015	0.030
75/08/27	10 10		0.070	0.637	0.015	0.020	0.050
75/09/26	16 00		0.065	1.900	0.095	0.015	0.050
75/10/09	14 50		0.075	0.500	0.020	0.015	0.040

NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

/TYPA/AGENT/STREAM

320501
38 55 55.0 119 58 40.0 4
TROUT CREEK
32 7.5 S LK TAHOE
T/LAKE TAHOE 150191
RROG ON US RT 50 .4 MI S OF S TAHOE MS
11EPALES 04001004
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	04	40	0.040	0.200	0.050	0.010	0.010
74/12/20	10	10	0.048	0.100	0.020	0.010	0.010
75/01/18	11	20	0.056	0.250	0.008	0.010	0.025
75/02/26	12	35	0.045	0.200	0.020	0.020	0.070
75/03/31	13	00	0.070	0.300	0.057	0.015	0.070
75/04/17	14	30	0.060	2.800	0.020	0.010	0.040
75/04/30	16	00	0.100	0.350	0.040	0.015	0.030
75/05/15	15	30	0.075	0.550	0.045	0.010	0.050
75/05/28	14	30	0.035	0.200	0.020	0.030	0.040
75/06/17	15	00	0.010	0.650	0.065	0.010	0.020
75/07/03	11	45	0.025	0.150	0.010	0.010	0.030
75/07/28	14	40	0.025	0.100	0.010	0.010	0.032
75/08/26	15	10	0.030	0.100	0.015	0.010	0.030
75/10/09	14	35	0.030	0.100	0.005	0.010	0.040

TAIL PUT-COMMICATION SURVEY
EPA- LAS VEGAS

/TYPA/AMBNT/STREAM

3205K1
38 56 00.0 120 03 15.0 4
TAYLOR CREEK
32 7.5 EMERALD BAY
T/LAKE TAHOE 150191
BRDG ON HWY 89 .8 M W OF CAMP RICHARDSON
11EPALES 04001004
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	13	20	0.120	0.100	0.050	0.005K	0.010
74/12/20	10	45	0.040	2.300	0.050	0.010	0.010
75/01/15	12	00	0.010	0.100K	0.010	0.005K	0.010K
75/02/26	13	30	0.005	0.200	0.035	0.005K	0.010K
75/03/31	13	00	0.010	0.150	0.030	0.005K	0.010K
75/04/17	14	30	0.005	1.950	0.010	0.005K	0.040
75/04/30	13	40	0.005	0.187	0.020	0.005K	0.010K
75/05/15	15	10	0.005	0.200	0.025	0.005K	0.020
75/05/28	13	00	0.005	0.350	0.025	0.010	0.010
75/06/17	14	20	0.005	0.050	0.015	0.005K	0.010K
75/07/03	11	30	0.020	0.150	0.015	0.005K	0.010K
75/07/28	14	00	0.050	0.500	0.155	0.005K	0.040
75/08/27	15	20	0.015	0.050	0.010	0.005K	0.010
75/09/25	14	00	0.005	1.400	0.120	0.005K	0.010K
75/10/03	13	50	0.005	0.100	0.017	0.005K	0.010

K VALUE KNOWN TO BE LESS THAN INDICATED

NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

320591
39 03 10.0 120 07 00.0 4
GENERAL CREEK
32 7.5 MEEKS BAY
T/LAKE TAHOE 150191
BRDG ON HWY 89 1.1 MI NE OF MEEKS BAY
11EPALES 04001004
0000 FEET DEPTH CLASS 00

/TYPE/ANALYST/STRET AA

DATE FROM TO	TIME	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	11 00		0.00K	0.100	0.020	0.015	0.030
74/12/20	11 20		0.00K	1.300	0.035	0.010	0.010
75/01/18	11 00		0.02K	0.100K	0.016	0.010	0.010
75/02/26	13 00		0.020	0.050	0.015	0.010	0.010
75/03/31	12 00		0.030	0.400	0.015	0.005	0.020
75/04/17	13 10		0.01K	1.000	0.010	0.010	
75/04/30	13 00		0.01K	0.200	0.020	0.010	0.010
75/05/15	14 20		0.02K	0.250	0.045	0.005K	0.020
75/05/28	12 10		0.00K	0.050K	0.025	0.005K	0.010K
75/06/17	13 00		0.00K	0.150	0.010	0.005K	0.010K
75/07/03	11 00		0.020	0.750	0.030	0.005K	0.010K
75/07/28	13 20		0.010	0.100	0.020	0.010	0.020
75/08/27	13 20		0.00K	0.650	0.015	0.015	0.015
75/09/26	12 30		0.00K	1.400	0.040	0.015	0.030
75/10/09	13 20		0.00K	0.100	0.005	0.015	0.040

K VALUE KNOWN TO BE LESS THAN INDICATED

NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

3205P1
39 04 15.0 120 08 30.0 4
MCKINNEY CREEK
32 7.5 HOMEWOOD
T/LAKE TAHOE 150192
BRDG ON HWY 89 .5 MI W OF TAHOMA
11EPALES 04001004
0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/STREAM

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/18	11	15	0.024	0.500	0.035	0.005K	0.010
74/12/20	11	30	0.044	0.900	0.020	0.005K	0.010K
75/01/18	11	00	0.056	0.700	0.008	0.005	0.010K
75/02/26	12	55	0.083	0.250	0.020	0.005K	0.010K
75/03/31	11	50	0.135	0.450	0.105	0.005K	0.020
75/04/17	13	20	0.120	0.800	0.020	0.005K	
75/04/30	12	40	0.100	0.050K	0.005	0.005K	0.010K
75/05/15	14	00	0.115	0.150	0.035	0.005K	0.010
75/05/28	12	00	0.040	0.100	0.015		
75/06/17	12	40	0.015	0.200	0.010	0.005K	0.010K
75/07/03	11	00	0.020	0.150	0.010	0.005K	0.010
75/07/28	13	10	0.070	0.300	0.030	0.005	0.010K
75/08/27	13	00	0.035	0.250	0.005K	0.005	0.010K
75/09/26	13	20	0.040	0.100K	0.005	0.005K	0.030
75/10/09	13	25	0.015	0.150	0.005K	0.005K	0.010K

K VALUE KNOWN TO BE LESS
THAN INDICATED

STORET RETRIEVAL DATE 77/01/22
NATL EUTHOPHICATION SURVEY
EPA- LAS VEGAS

320510
39 19 20.0 120 04 15.0 4
JUNIPER CREEK
32 7.5 MARTIS PEAK
T/LAKE TAHOE 150191
UNIMPROVED RD XING .4 M SE OF HIRSCHDALE
11EPALES 04001004
0000 FEET DEPTH CLASS 00

/TYPA/A-MNT/STREA-

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	12 45		0.008	0.200	0.045	0.015	0.020
74/12/20	12 30		0.032	0.600	0.024	0.016	0.020
75/01/14	10 15		0.024	0.400	0.004		0.012
75/02/26	17 30		0.015	0.800	0.020	0.025	0.080
75/04/17	11 50		0.050	0.750	0.015	0.015	0.030
75/04/30	11 50		0.090	0.350	0.010	0.015	0.040
75/05/27	19 00		0.025	0.750	0.025		
75/06/17	11 30		0.010	0.300	0.027	0.015	0.030
75/07/05	10 10		0.010	0.387	0.195	0.015	0.040
75/07/28	12 00		0.015	0.850	0.035	0.025	0.050
75/08/27	11 30		0.005	0.050	0.005K	0.025	0.030
75/09/25	12 15		0.005	0.100K	0.005K	0.020	0.080
75/10/06	12 10		0.005	0.400	0.040	0.020	0.020

62

K VALUE KNOWN TO BE LESS
THAN INDICATED

NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

320511
38 57 55.0 119 50 55.0 4
DAGGETT CREEK
32 7.5 MINDEN
T/LAKE TAHOE 150191
BNK SAMP .5 MI W OF JCT HWY FOOTHILL RD
11EPALES 04001004
0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/STREAM

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	11 30		0.008	0.100K	0.022	0.005	0.010
74/12/20	14 00		0.032	0.200	0.024	0.008	0.010K
75/01/18	15 00		0.080	0.200	0.024	0.010	0.014
75/04/17	16 00		0.020	1.150	0.020	0.005	
75/05/01	11 30		0.005	0.050K	0.005K	0.035	0.070
75/05/15	10 40		0.070	0.150	0.005K	0.010	0.030

K VALUE KNOWN TO BE LESS THAN INDICATED

STORET RETRIEVAL DATE 77/01/22
NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

320510
38 04 15.0 119 50 50.0 4
UNNAMED CRK IN WTR CYN
32 7.5 GENOA
T/LAKE TAHOE 141091
UNIMPROVED RD XING 5.75 MI N OF GENOA
11EPALES 04001004
0000 FEET DEPTH CLASS 00

/TYPA/AMNT/STREAM

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	17	30	0.024	0.100K	0.010	0.025	0.030
74/12/20	14	35	0.024	0.400	0.024	0.024	0.030
75/01/15	15	30	0.024		0.016	0.027	
75/03/31	16	00	0.030	1.250	0.025	0.030	
75/04/20	11	00	0.010	0.450	0.005K	0.030	0 040
75/05/01	10	00	0.015	0.050K	0.005	0.005	0.030
75/05/15	14	00	0.030	1.850	0.020	0.075	
75/05/28	16	00	0.020	0.750	0.025	0.055	
75/06/20	11	30	0.010	0.100	0.005K	0.030	0.030
75/07/04	12	00	0.010	0.250	0.040	0.030	0.060
75/07/28	11	00	0.010	0.050	0.015	0.035	0.050
75/08/31	10	50	0.035	0.100	0.005K	0.040	0.060
75/09/28	11	00	0.010	0.100K	0.010	0.030	0.120
75/10/04			0.015	0.300	0.005	0.030	0.080

K VALUE KNOWN TO BE LESS THAN INDICATED

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STORET RETRIEVAL DATE 77/01/22
NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

3205W1
39 14 30.0 120 01 45.0 4
GRITT CREEK
32 7.5 KINGS BEACH
T/LAKE TAHOE 150191
100 YDS E OF HWY 267 IN KINGS BEACH
11EPALES 04001004
0000 FEET D PTH CLASS 00

/TYPA/AMBNT/STREAM

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	14 20		0.008	0.100K	0.005	0.010	0.010
74/12/20	13 10		0.008	0.500	0.016	0.008K	0.010
75/01/18	09 35		0.024	0.600	0.016	0.010	0.015
75/02/26	10 50		0.020	0.800	0.025	0.005	0.020
75/03/31	10 00		0.030	0.450	0.015	0.005	0.010
75/04/17	11 00		0.025	0.950	0.010		0.030
75/05/01	11 30		0.035	0.050K	0.005K	0.010	0.010
75/05/15	12 10		0.035	0.700	0.035	0.010	0.090
75/05/28	11 25		0.010	0.050K	0.020	0.011	0.030
75/06/17	11 15		0.005	1.050	0.020	0.005	0.010
75/07/03	09 30		0.010	0.250	0.025	0.010	0.010
75/07/28	11 40		0.015	0.300	0.020	0.010	0.020
75/08/27	10 45		0.015	0.100	0.005K	0.010	0.010
75/09/26	11 30		0.020	0.400	0.080	0.050	0.070
75/10/09	11 10		0.005	0.100	0.005K	0.010	0.010

K VALUE KNOWN TO BE LESS THAN INDICATED

NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

/TYPA/AMBNT/STREAM

3205X1
38 57 55.0 119 56 10.0 4
EDGEWOOD CREEK
32 7.5 LK TAHOE S
T/LAKE TAHOE 150191
US RT 50 BRDG 0.5 MI NE OF STATELINE
11EPALES 04001004
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	09	15	0.032	0.300	0.020	0.010	0.020
74/12/23	10	10	0.044	0.200	0.020	0.015	0.030
75/01/18	13	50	0.048	0.100K	0.032	0.015	0.030
75/02/26	14	30	0.050	0.150	0.055	0.015	0.070
75/03/31	14	00	0.085	0.250	0.020	0.015	0.060
75/04/17	15	00	0.065	0.450	0.050	0.015	0.030
75/05/01	15	30	0.075	0.050K	0.030	0.015	0.040
75/05/15	16	00	0.085	0.300	0.015	0.015	0.050
75/05/28	15	00	0.055	0.650	0.020		0.040
75/06/17	13	30	0.065	0.350	0.025	0.010	0.080
75/07/03	12	00	0.035	0.400	0.010	0.015	0.020
75/07/28	15	00	0.050	0.100	0.010	0.015	0.040
75/08/27	16	00	0.040	0.100	0.020	0.020	0.020
75/09/26	15	30	0.030	0.100K	0.025	0.015	0.030
75/10/09	14	45	0.030	0.200	0.005K	0.015	0.030

K VALUE KNOWN TO BE LESS THAN INDICATED

STOR T R TY V L T /01/22
NATL EUTROPHICATION SURVEY
EPA- LAS VEGAS

3205Y1
38 55 05.0 119 50 30.0 4
HEAVENLY VALLEY CREEK
32 7.5 LK TAHOE S
T/LAKE TAHOE 150191
2 M S OF STATELINE AT PIONEER TRL RD XNG
11EPALES 04001004
0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/STREAM

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	10	50	0.490	0.500	0.070	0.005	0.010K
74/12/20	10	30	0.624	1.800	0.048	0.007	0.010
75/01/18	12	30	0.702	0.200	0.024	0.010	0.010
75/02/26	14	00	0.770	0.200	0.135	0.010	0.020
75/03/31	13	30	0.670	0.050	0.010	0.005	0.010
75/04/17	14	40	0.840	0.800	0.030	0.005	0.010
75/05/01	15	30	0.525	0.050K	0.015	0.005	0.010K
75/05/15	15	40	0.280	0.200	0.010	0.010	0.040
75/05/28	14	35	0.185	0.300	0.010	0.015	
75/06/17	15	10	0.045	0.650	0.020	0.015	0.030
75/07/03	11	50	0.085	0.050K	0.010	0.005	0.010
75/07/28	14	30	0.170	0.050K	0.005	0.005	0.020
75/08/27	15	40	0.240	0.050K	0.005K	0.010	0.020
75/09/26	15	15	0.300	0.100K	0.030	0.005	0.050
75/10/09	14	30	0.290	0.200	0.005	0.005	0.010K

K VALUE KNOWN TO BE LESS
THAN INDICATED

NATL EUTHOPHICATION SURVEY
EPA- LAS VEGAS

320521
39 00 52.0 120 07 15.0 4
LONELY GULCH CREEK
32 7.5 MEEKS BAY
T/LAKE TAHOE 150191
HWY 89 RD XING 2 MI S MEEKS BAY
11EPALES 04001004
0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/STREAM

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	10 50		0.005K	1.200	0.030	0.005K	0.010K
74/12/20	11 10		0.024	2.300	0.040	0.008F	0.010K
75/05/15	14 40		0.070	0.600	0.015	0.005K	0.030
75/05/28	12 20		0.025	0.050K	0.010	0.005	0.020
75/06/17	13 10		0.010	0.150	0.005	0.010	0.010
75/07/03	11 10		0.005	0.650	0.010	0.005K	0.010K
75/07/28	13 40		0.010	0.100	0.005	0.005K	0.010K
75/08/27	13 30		0.005	0.050K	0.005K	0.005K	0.010K
75/10/09	13 40		0.005	0.100	0.005K	0.005K	0.010K

K VALUE KNOWN TO BE LESS
THAN INDICATED

87

LAKE EUTROPHICATION SURVEY
EPA- LAS VEGAS

/TYPE/AMBNT/STREAM

320541
39 18 07.0 120 07 12.0 4
MARTIS CREEK
32 7.5 MARTIS PEAK
T/LAKE TAHOE 150191
HFLOW HWY 267 XING 50 FT DNSTRM CNFLNC
11EPALES 04001004
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/11/17	13 50		0.016	0.100K	0.020	0.025	0.030
75/01/18	09 53		0.056	0.500	0.012	0.016	0.025
75/02/26	12 00			1.150	0.035	0.012	0.050
75/03/24	10 00		0.055	2.200	0.025	0.020	0.040
75/04/17	11 20		0.045	1.150	0.020		0.027
75/05/01	12 40		0.080	0.675	0.020	0.010	0.030
75/05/15	12 30		0.030	0.500	0.140	0.020	0.070
75/05/27	19 30		0.015	0.150	0.020	0.020	0.095
75/06/17	11 00		0.010	0.200	0.010	0.015	0.020
75/07/03	09 50		0.015	0.500	0.010	0.015	0.020
75/07/29	11 30		0.010	0.450	0.025	0.015	0.050
75/08/27	11 10		0.035	0.350	0.020	0.015	0.015
75/09/26	11 40		0.005	0.100K	0.005K	0.015	0.040
75/10/09	11 40		0.005	0.100	0.005K	0.015	0.020

K VALUE KNOWN TO BE LESS THAN INDICATED

APPENDIX E

PARAMETRIC RANKINGS OF LAKES SAMPLED BY NES IN 1975

STATE OF NEVADA

Mean or median values for six of the key parameters evaluated in establishing the trophic conditions of Nevada lakes sampled are presented to allow direct comparison of the ranking, by parameter, of each lake relative to the others. Median total phosphorus, median inorganic nitrogen and median dissolved orthophosphorus levels are expressed in mg/l. Chlorophyll *a* values are expressed in µg/l. To maintain consistent rank order with the preceding parameters, the mean Secchi disc depth, in inches, is subtracted from 500. Similarly, minimum dissolved oxygen values are subtracted from 15 to create table entries.

LAKE DATA TO BE USED IN RANKINGS

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	500-MEAN SEC	MEAN CHLORA	15-MIN DO	MEDIAN DISS ORTHO P
3201	LAKE MEAD	0.016	0.340	266.565	3.111	11.400	0.005
3202	LAHONTAN RESERVOIR	0.198	0.350	472.003	4.608	10.400	0.148
3204	RYE PATCH RESERVOIR	0.094	0.050	467.750	4.938	10.000	0.039
3205	LAKE TAHOE	0.005	0.040	-3.269	0.571	10.200	0.003
3206	TOPAZ RESERVOIR	0.057	0.165	376.000	7.517	14.600	0.041
3207	UPPER PAHRANGAT LAKE	0.173	0.125	470.000	---	8.600	0.026
3208	WASHOE LAKE	0.403	0.130	494.555	11.633	7.200	0.268
3209	WILD HORSE RESERVOIR	0.114	0.320	489.400	75.530	14.000	0.065
3210	WILSON RESERVOIR	0.049	0.120	197.333	10.033	11.400	0.016
3211	WALKER LAKE	0.602	0.080	405.333	3.422	15.000	0.074

PERCENT OF LAKES WITH HIGHER VALUES (NUMBER OF LAKES WITH HIGHER VALUES)

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	500-MEAN SEC	MEAN CHLORA	15-MIN DO	MEDIAN DISS ORTHO P
3201	LAKE MEAD	89 (8)	11 (1)	78 (7)	83 (7)	39 (3)	89 (8)
3202	LAHONTAN RESERVOIR	22 (2)	0 (0)	22 (2)	63 (5)	56 (5)	22 (2)
3204	RYE PATCH RESERVOIR	56 (5)	89 (8)	44 (4)	50 (4)	78 (7)	56 (5)
3205	LAKE TAHOE	100 (9)	100 (9)	100 (9)	100 (8)	67 (6)	100 (9)
3206	TOPAZ RESERVOIR	67 (6)	33 (3)	67 (6)	38 (3)	17 (1)	44 (4)
3207	UPPER PAHRANAGAT LAKE	33 (3)	56 (5)	33 (3)	---	89 (8)	67 (6)
3208	WASHOE LAKE	11 (1)	44 (4)	0 (0)	13 (1)	100 (9)	11 (1)
3209	WILD HORSE RESERVOIR	44 (4)	22 (2)	11 (1)	0 (0)	17 (1)	33 (3)
3210	WILSON RESERVOIR	78 (7)	67 (6)	89 (8)	25 (2)	39 (3)	78 (7)
3211	WALKER LAKE	0 (0)	78 (7)	56 (5)	75 (6)	0 (0)	0 (0)